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The life cycle of a small family-run entrepreneurial organization : a case analysis of change and growth.

Michael John Stacey
University of Massachusetts Amherst

THE LIFE CYCLE OF A SMALL FAMILY-RUN ENTREPRENEURIAL ORGANIZATION: A CASE ANALYSIS OF CHANGE AND GROWTH

A Dissertation Presented

By

MICHAEL JOHN STACEY

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Approved as to style and content by:

Donald K. Carew, Chairperson

Gretchen Rossman, Member

John Simmons, Member

Marilyn Haring-Hidore, Dean
School of Education

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ABSTRACT

THE LIFE CYCLE OF A SMALL FAMILY-RUN ENTREPRENEURIAL ORGANIZATION: A CASE ANALYSIS OF CHANGE AND GROWTH

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MICHAEL JOHN STACEY, B.S., QUINNIPIAC COLLEGE

M.A., GODDARD COLLEGE

Ed.D., UNIVERSITY OF MASSACHUSETTS

Directed by: Professor Donald K. Carew

A qualitative case study traced the evolution of a family-run entrepreneurial organization through six periods of development. The company, with approximately fifty employees, manufactures custom molded rubber parts.

The development of the organization was analyzed using two models: Noel Tichy's (1983) technical, political, cultural framework and Cameron and Whetten's (1983) summary model. Tichy's open system model was used as the structure upon which data were collected on eight organizational dimensions. Those data were analyzed using both Tichy's (1983) and Cameron and Whetten's (1983) schema's. Tichy's (1983) framework was used to describe and explain the organization's three subsystems (technical, political, cultural) and their adjustments to uncertainties in the external and internal environments. Cameron and Whetten's (1983) model was used to trace the

organization's evolution through four distinct stages of development. Both models were then combined in an integrated format to describe and explain JRW's evolution.

This research study found that JRW did evolve through four stages of development from 1975 to 1989. The findings also confirmed that the organization's subsystems (Technical, Political, Cultural) adjusted to events in and outside of the organization during that period.

The dissertation concluded with a discussion of the significance of the study and suggestions for future research.

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CHAPTER I

INTRODUCTION

Introduction

This study traced and analyzed the life cycle of a small family-run organization.

The first chapter of this dissertation is divided into several sections. In the background section an overview of the small business sector is presented with a discussion of the importance of this sector to the economy. The fact that the small family business is understudied is examined. The purpose and significance of this study and its research questions are provided. A description of the research site and the study format is also included.

Background Of the Study

The Small Business Administration (1987) defines a small business as any organization that employs between one and five hundred employees. That definition encompasses many different kinds of organizations such as the small convenience store run by a local family, a local video rental store, and the neighborhood clothing store. The list is endless and the variations are many. The small business sector appears to touch us in almost every facet of our lives. In 1987, Jessica McClure, an eighteen month old girl, was saved by an excavation system called the waterjet which is manufactured by a small business

(SBA, 1988). Using it, rescuers were able to dig a shaft parallel to the one she fell in. Without it, Jessica's rescuers would not have been able to penetrate a hard sandstone formation which blocked their path to Jessica.

The list of small business variations and product stories are endless. It was not the intent of this study to cover all of the small business variations that exist in our economy. However, it is clear that these and other small businesses are important to our society.

Small businesses contribute to our economy in many ways. Currently, this type of organization accounts for almost half of our economy's employment. Ninety-nine percent of all businesses are defined as small businesses. The small business organization also produces forty-seven percent of our country's output (Abdnor, 1988). In 1986, there were "15.2 million non-farm small businesses in the United States" (Pacific Bell and SBA, 1987, p.3). Several other statistical indicators underscore the importance of small businesses to our economy. The retail trade, which is dominated by small businesses, recorded a sales increase of seven percent in 1985. The whole GNP in 1985 only grew by 2.1 percent (Pacific Bell and SBA, 1987). It is clear that this type of small business is growing faster than the economy in general. Small businesses also create jobs.

Ten and a half million jobs were created by small

businesses from 1980-1986. (Regan, 1988). Businesses owned by women are also growing. From 1980 to 1985, businesses owned by women increased by 47.4 percent (Regan, 1988).

The entrepreneurial nature of these small businesses goes back to our forefathers. In fact, Benjamin Franklin was "first and foremost an entrepreneur" (Abnor, 1988, p.1).

Today, that entrepreneurial spirit may help our economy rebound from recent economic problems. Statements by officials, business leaders, and other prominent figures suggest that entrepreneurial activity might help the U.S. regain its competitive advantage (Sexton, 1988). The United States government developed the small business innovation research program in response to this need. In five years, 1983-1988, that program has awarded 9,293 grants to small business totaling one billion dollars (SBA, 1988). The waterjet system, mentioned above, was manufactured by a small business that received one of those awards. According to Birch (1987), entrepreneurial starts increased from 90,000 in 1951 to 900,000 in 1984. This positive picture is tainted because of problems associated with entrepreneurial ventures. For instance, fifteen percent of employees in this type of organization have no health insurance and ten million employees lost their jobs when these businesses failed (Birch, 1987).

The entrepreneurial venture is most likely run by a family. In the United States, ninety percent of our businesses are family-run. There are not many studies about family-run businesses despite their prominence in the small business sector. A recent computer search of the social science index revealed that there were only fifty-three articles dealing with this type of firm since 1977.

There are three reasons researchers neglect family firms. First, there is a belief among researchers that the control of business no longer rests in the hands of families. Second, researchers find it hard to simultaneously study both the family and the business. Third, is the myth that work and families are separate in organizations. Therefore, management researchers investigate work issues and family researchers explore family dynamics (Landsburg, 1988).

The need for more studies is evident. This investigation will expand the number of small family run business studies which exist in literature.

Purpose of the Study

The importance of the small family run entrepreneurial business to our economy and the paucity of studies in this type of business necessitate further study. This investigation focused on a small family-run entrepreneurial

organization. Critical developmental issues can be illuminated using a historical reflective approach. As a result of the investigation, we may begin to generate answers as to how and why one small family-run entrepreneurial organization grew and developed over time. Understanding the development patterns of one small family-run entrepreneurial organization may stimulate other studies and eventually lead to answers about the cause of the low survival rate in this type of organization. Fifty-three percent fail during the first five years of operation and thirty percent of the remaining forty-seven percent fail in the period between six and ten years (Timmons, 1986).

Three fundamental research questions were posed in this study:

- Did the organization move through a number of distinct stages or changes in its evolution? And if so:
  - How did the organization evolve to its current stage of development?
  - Why did the organization evolve to its current stage of development?
  - Where is the organization currently in its development?

- What are the implications from the previous questions for Jefferson Rubber Works future development?

° Do the theories of Noel Tichy (1983) and Cameron and Whetten (1983) apply in describing and analyzing a small family-run organization?

° Can Rosen's (1986) research methodology of combining two theories, be replicated in a different type of organization - a small family-run organization?

Rosen's (1986) design combined two life cycle theory models. One model, developed by Noel Tichy (1983), claimed that organizations evolve when they resolve problems created by uncertainties in the environment. Three organizational sub-systems (technical, political, and cultural) may need to adjust. At any time, one or all of the three systems may be affected by uncertainty or change in the environment. According to Tichy, it is necessary for problems in the sub-system(s) effected to be resolved in order for the organization to develop.

The other model, developed by Cameron and Whetten (1983), describes an organization's evolution in terms of developmental stages. Their model views organizations as evolving through four stages. Passage from one stage into

the next is dependent upon resolution of problems in the previous life cycle stage. The four stages of evolution are: The entrepreneurial stage, the collectivity stage, the formalization and control stage, and the elaboration of structure stage. In the entrepreneurial stage, innovation and creativity are the main focus. The collectivity stage is typically concerned with informal communication and structure. The third stage, formalization and control, is the period during which rules and procedures become important to the organization. And in the last stage, elaboration of structure, the organization begins to get concerned about renewing itself and expanding its domain.

Rosen's study found that the Massachusetts Association of 766 approved private schools (MAPPS) passed through four stages of development and that MAPPS subsystems adjusted to uncertainty in the internal and external environments.

Similar studies have been conducted in three types of setting using either Tichy's (1983), Cameron and Whetten's (1983) or both theories in the investigation.

The settings included a Medical School (Kimberly 1979), a Development Center for the Retarded (Quinn and Cameron (1983), and a Voluntary Association (Rosen 1986).

None of the above studies have applied these developmental theories to small family run entrepreneurial businesses. Since this kind of organization is so central to our economy it is important to investigate its life cycle. The case study method was used in all three studies. Case study methodology was useful in each case because it illuminated how and why each organization evolved over time.

There is a need to continue this type of investigation in a small family-owned entrepreneurial organization. Publications on life cycle theory in small family-owned entrepreneurial firms has been based on word-of-mouth consulting articles (Cooper, 1982). Case studies are needed so that the unique nature of this kind of organization can be illuminated.

This case study was conducted in a small family-run organization. All administrative and manufacturing operations are conducted at the company's 33,000 square-foot site. Manufacturing is a three-shift operation. Gross sales in 1988 were approximately four and a half million dollars. Currently the company employs sixty-two people, forty-nine of whom are male and thirteen, female. Ten of the male employees and four of the female employees are in management. Thirty-nine of the hourly employees are male and nine are female. The

top and middle management team includes: a President (the father), Vice-President of Operations (the son), Vice President of Sales and Marketing (a brother-in-law), Treasurer (the wife of the President), Controller, Materials Manager, and a Manufacturing Manager.

Founded in 1975 by the father and a partner, the company manufactures custom molded components for automotive molding with environmental companies. These companies then combine their components with the JRW components and sell the assembled product under their name to the public. JRW also sells a number of products under its own name. Products that carry the JRW logo include a variety of rubber pieces used to connect sewer pipes. These products are sold to municipal governments. All products are made using an injection molding type of process.

Significance of Study

This study is significant because it will contribute to our knowledge about organizations in five ways. First: By studying the life cycle of the organization, we may confirm the notion that this type of organization did indeed move through a number of distinct stages or changes in its evolution. The inquiry may also reveal the type of

phenomena which are pertinent in these stages. Those revelations should add to the existing body of knowledge about life cycle theory in general.

Second: The study will expand on and refine the theoretical constructs of Noel Tichy (1983) and Cameron and Whetten (1983).

Third: This study will fill a gap that exists in small organization research. Case studies on the life cycle of small family-run entrepreneurial organizations do not exist in the literature. A few discursive writings, based upon observations, (Posner, 1987/Murphy, 1986/Nelson, 1987), field surveys (Yozikis and Mescom, 1985/Firoito and Greenwood, 1986) with a quantitative focus, case studies in a volunteer and mental health organization (Rosen, 1986, Quinn and Cameron, 1983) and a longitudinal case study in a medical school (Kimberly, 1979) can be found in the literature.

Fourth: The organizational members will gain insight about how their past influenced the present and how the present may influence their future. That insight might also aid the organization in its planning.

Fifth: The study will expand on a research strategy developed by Rosen (1986). Rosen used a descriptive case study format to describe and analyze a voluntary organization (Massachusetts Association of Approved

Private Schools). That study followed the association through the stages of its life cycle. Rosen's model uses the theories of Tichy (1983) and Cameron and Whetten (1983).

This investigation adapted Rosen's (1986) research design to a different setting - a small family-owned entrepreneurial organization.

Rosen's (1986) conceptual schema should enable the researcher to capture the historical essence of Jefferson Rubber Works. That schema combines Tichy's (1983) model and Cameron and Whetten's (1983) model. The resulting schema should enable this researcher to describe and analyze the organization's evolution.

Format

The dissertation will be divided into six chapters.

Chapter one provides an introduction to the study. The importance of the type of organization being studied and the lack of studies that have been conducted were examined. The purpose of the study and a description of the research site were discussed in this chapter. Chapter one concludes with a discussion of the significance of the study.

Chapter two is a literature review of the organization life cycle concept including a discussion on the theories and models in this area. Also reviewed were studies of

the life cycle concept in small organizations. The relationship of the reviewed literature and the model were elaborated on.

The third chapter described the research approach. The research design, phases and rationale were presented and discussed.

Chapter four presents the findings which were organized according to the eight components of Tichy's open systems model.

Chapter five is an analysis and discussion of Chapter Four's findings. Those findings were analyzed using both Noel Tichy's TPC Framework (1983) and Cameron and Whetten's (1983) model.

Chapter six summarized the study and drew conclusions.

CHAPTER II

REVIEW OF THE LITERATURE

Small Business Studies

Introduction

Small business definitions and the current state of small business research are described and explained in the first part of this chapter. A description of the Life Cycle Concept and its assumptions are elaborated on in the second part of the chapter. Life Cycle issues and models are also examined in the chapter.

Definitions

Small business definitions vary greatly from writer to writer. Scott and Bruce (1987) define the small business enterprise in the following manner:

> 1. Management is independent - usually the managers are also owners.
> 2. Capital is supplied and ownership is held by an individual or small group.
> 3. Area of operations is mainly local. Workers and owners are in one home community, but markets need not be local (p. 46).

Cooper and Ljirs (1983) use a more numerical definition in describing a small business. They define a small business as an organization that has $1,000,000 or less in cash or property. Davids (1978) claims that the exact meaning varies to such an extent that one must know the source defining the small business organization and the time period in which it is being checked.

Brown, H., Longenecker, J. and Moore, C. (1983) define the small business by its size. They look at:

1. Number of employees.
2. Sales volume.
3. Asset size.
4. Insurance in force.
5. Volume of deposits (p. 36).

Hodgetts (1982) uses the 1953 Small Business Administration's text to define a small business. That definition states the upper limits for this type of organization. Those limits are:

- **MANUFACTURING FIRMS** - 250 or fewer employees. (If employment is between 250 and 1,500 a size standard for the production industry is used).
- **WHOLESALING** - $5 million to $15 million in annual sales, depending on the industry.
- **RETAILING AND SERVICE** - $1 million to $15 million in annual sales, depening on the industry (p. 5).

The Small Business Administration's definition is generally used to describe a small business (Hodgetts, 1982).

Research

Small business research has been classified by Cooper (1979) in the following manner:

1. Discursive Writings - based upon wisdom, observation and general experience, usually prescriptive in character.
2. Case Studies - based upon intensive study of selected cases; data can be from secondary sources or field studies.
3. Field Surveys - data gathered from many respondents through survey techniques.
4. Field Research - includes comparative case studies, longitudinal studies and field experiments (p. 317).

Discursive Writings The bulk of small business research has been discursive. Those research articles have been mostly about operating problems or opportunities without support from research studies (Vozikis, G. and Mescon, T., 1985). Studies about small family-run business that fit the discursive category were written by Posner (1987), Murphy (1986) and Nelson (1987).

Posner (1987) describes a family business that failed to survive from one generation to the next. The story is about the Ikin brothers who started a furniture business in 1934. The business was successful for many years. In 1962 the owner's sons joined the business and things were fine until the original owners retired. After the owners retired their sons began to quarrel about the direction of the family business. Those quarrels resulted in one of the original owner's sons leaving the business. Eventually the owner's other sons also left the business when sales fell to record lows. The sales decline was the result of poor management. The message of this study was for first generation family business owners to identify and select capable successors before they retire.

Murphy (1986) describes another family business that was and is still successful. Murphy describes the Burke family's success as due to hard work and planning for change. Gordon Burke started an upholstery manufacturing

business in 1966. In 1972 he realized that his side business of making flags was more profitable than the upholstery business. The switch was made to flag manufacturing at that time. The sons and daughters joined the firm around 1972 and established a sales and marketing strategy which resulted in a jump of 213 percent in sales from 1979 to 1982. Dealerships were also established in six Canadian provinces and the company began to advertise nationally.

A third discursive article was written by Nelson (1987). He described how Harry Bondar and his son built a 100 million dollar business from a 3,000 dollar veterans loan. That growth was primarily achieved through bulk purchasing and by owning the land where sales sites were situated. The Bondars have mobile home dealerships in several Canadian provinces.

All of the discursive writings imply that there was a life cycle in each story. In Posner's article the family moved from a start-up type of business into the mature phase before the original owners retired. The Murphy article implies that the family was able to recognize opportunities in a different market, thereby avoiding market saturation. The market change enabled them to expand, the next logical step in their life cycle. That strategy also enabled them to avoid entering the decline

phase in the declining upholstery industry. Last, Nelson alludes to the success of the Bondars as being related to their successful transition from one life cycle (hands-on management) to another life cycle (professional purchasing systems and a low cost pricing strategy) (Cameron and Whetten, 1983).

Case Studies The number of small business case studies in the literature is endless. However, all of those studies are used to educate a small business owner/manager or a student about a particular aspect of management (Hodgetts, 1982, Abrahamson, R./Pickle, H. 1986). A few case studies are described to give the reader a flavor for this type of research. Hodgetts (1982), for instance, uses the "one dance studio for sale" case to demonstrate some of the traps a buyer may find in purchasing a business. In the study Calvin Horowitz is considering buying Mr. Cecils dance studio. The problem is that Mr. Cecils business records are vague so Mr. Horowitz cannot determine the profitability of the studio. Hodgetts (1982) poses several questions, at the end of the case, for prospective buyers to consider when purchasing a business. In another case Abrahamson and Pickle (1986) use the TLC industries case to highlight how poor promotional priorities can cause conflict between organizational members. In the TLC case Sally White is

promoted to a General Manager position after being with the company for three years as the Office Manager. Sally is also the President's stepdaughter. Edward Green, the Sales Manager, is passed over when Sally receives the promotion. Edward has been with the company for two years and has become very knowledgable about all aspects of the business. Sally doesn't have the same expertise. After Sally's promotion there are hard feelings between Edward and Sally. The authors pose several questions, at the end of the case, about whether good promotions policies were used at TLC.

Field Surveys Life cycle field studies also support the concept of life cycle research with small exporting and retail firms.

A survey was conducted by Yozikis and Mescon (1985) with the Small Business Development Center located at the University of Georgia. Researchers analyzed the small business center's files to ascertain whether there were significant differences in overall and exporting functional problems at different stages of overall and exporting development. The study confirmed the fact "that there seem to be different sets of overall and exporting problems at different stages of overall and exporting development" (p. 66). The Yozikis and Mescon (1985) study used cross-sectional methods and was quantitative in

nature. In the conclusion of their article the authors called for a longitudinal investigation because the time between stages was not determined in their study. That type of investigation would enhance their findings.

Firoito and Greenwood (1986) surveyed a sample of 206 retailers who attended 13 workshops which focused on inventory control, buying plans, promotional strategies and other retail techniques. The Dillman total design method was used to design the questionnaire in this study. A cluster analysis was used to analyze the findings. Nine variables were used in this study to determine if there was a difference in variable strength during different stages of a retail firm's development. The retail life cycle model (RLC) and the market characteristic models were used in this study. Both are life cycle models which define a retail organization's evolution in terms of four stages. The researchers concluded that of the four types of marketing characteristics investigated (number of competitors/rate of sales growth/level of profitability and duration of current innovation) only competition occured during the four stages of the RLC model. The cluster analysis of the market characteristics model showed that only two variables increased during the marketing model stages. Those variable were the number of sales people and the

square feet of selling space. The proportion of sales dollars spent on advertising actually declined in this study. The authors suggest that these findings might help retailers plan their needs during various life cycle stages.

Field Research Longitudinal research methodology has been used to study small businesses over a period of time. That type of research was conducted by Cooper (1982). In one study, Cooper analyzed six different studies where new firms were monitored over different periods of time. The six studies he analyzed included:

1. A Department of Commerce study of all operating businesses started or transferred to new ownership during the eight years ending in 1954 (Churchill, 1955).

2. A study of 278 new manufacturing businesses started or transferred to new ownership during a five-year period (Kinard and Malinowski, 1960).

3. A two-year study of 81 new service and retail firms in Rhode Island (Nayer and Goldstein, 1961).

4. A three-year study (Hoad and Roski, 1964) of 95 new manufacturing firms in Michigan.

5. A study of 234 high-technology firms in the Boston area over a four-to-five-year period (Roberts, 1972).

6. A study of 250 high-technology firms in the Palo Alto area over about a ten-year period (Cooper and Bruno, 1977) (p.197).

Cooper found that a pattern of low survival was exhibited by firms in four of the six studies examined by him. The specifics are outlined in Table 1.

TABLE 1

New Firm Discontinuance Rates

	Rhode Island retail and service firms (a)		Michigan manufacturing firms (b)	Connecticut manufacturing firms (c)	All New operating firms 1947-1954 (d)
Number of new firms *	81		95	276	6,294,000 *
Percentage discontinued	**	***			**
First year	28%	-	17%	6%	(0.5 yrs) 23%
First two years	49%	28%	32%	17%	(1.5 yrs) 46%
First three years	-	-	35%	24%	(2.5 yrs) 59%
First five years	-	-	-	44%	(4.5 yrs) 71%

* In the Rhode Island and "all new operating firms: studies, new forms included businesses transferred to new ownership. In the Michigan and Connecticut studies, the new firms had no predecessors.
** "Discontinued" includes all firms discontinued or sold.
*** "Discontinued" does not include unsuccessful firms which were sold.
(a) Nayer and Goldstein (1961)
(b) Hoad and Rosko (1964)
(c) Kinard and Malinowski (1960)
(d) Churchill (1955)

Of particular importance to note is that the "Discontinued rates for the first two years ranged from 17 percent for the Connecticut manufacturers to 49 percent for the Rhode Island retail and service firms". After 11 years of operation, 1944 through 1954, "7.8 million concerns were disposed of - about 60% were sold, reorganized, or otherwise transferred to new owners, and 40% were liquidated" in the Department of Commerce study (Churchill, 1955, p. 16).

Some interesting survival statistics also emerged from Cooper's analysis of the six studies. Those statistics are displayed in Table 2.

TABLE 2

Performance of Surviving New Firms

Second year performance of surviving Rhode Island firms (a)		Second year performance of surviving Michigan firms (b)			
Sales	Number of firms	Sales	Number of firms	Profit plus salaries	Number of firms
Under $5,000	5	$ 5,000 or less	7	Loss	5
$ 5,000-9,000	4	5,100-10,000	2	$ 0-5,000	9
10,000-19,000	7	10,100-20,000	5	5,100-10,000	9
20,000-29,999	5	20,100-50,000	18	10,100-20,000	7
30,000-39,999	3	50,100-100,000	11	20,100-40,000	7
40,000-49,999	3	Over 100,000	10	Over 40,000	5
50,000-99,999	6	Not reported	6	Not reported	17
100,000 and over	1		59		59
Not reported	7				
	41				

(a) Nayer and Goldstein (1961)
(b) Hoad and Rosko (1964)

Cooper's (1982) analysis showed that:

> The typical surviving company in this sample was very small at the end of two years; only two of 41 survivors had more than four employees. Some of the Michigan manufacturing firms experienced modest growth in their first three years, but 21 of the 59 survivors had fewer than four hired employees, and only two of the firms had more than 40 employees (pp. 198-199).

The Organizational Life Cycle

Introduction

Organization development research has been conducted primarily in mature organizations using cross-sectional designs. Such research ignores the developmental stages of an organization (Kimberly, 1980). That narrow focus is a problem because it does not account for the start up phase of an organization's history or the decline or expansion phases of an organization's history. Kimberly (1980) suggests four reasons why this type of situation exists:

1. In most cases researchers are involved with a subject organization or set of organizations only at at particular point in time.
2. A second reason for the static quality of much research on organizations is that organizations, almost by definition, tend to outlive individual members.
3. A third reason for the lack of dynamic perspectives on organizations is a function of the tension in organizational research between science and history.
4. The reward structure for academic researchers and the demands of longitudinal research are generally incompatible (Kimberly, 1980, p. 3-5).

Katz (1978), another researcher advocating the life cycle concept, uses the maximization principle to support the perspective. That principle states: "One of the basic properties of social systems of the bureaucratic type is that they move toward maximization, toward growth and expansion" (p. 99).

Critics of the life cycle analogy see organizational evolution in different ways. The first criticism is that biological organisms start dying the minute they are born and organizations do not; the second criticism is that organizations do not go through relatively clear and predictable stages of growth. Critics also argue that "organizations make adjustments to their environment over time, but the adjustments cannot be anticipated" (Cameron and Whetten, 1983, p. 281).

This section of the chapter examines the life cycle to see if there was a body of literature which justifies the concept. That literature will be reviewed by examining the life cycle concept and the assumptions surrounding that concept. The issues and models are also pursued.

The Life Cycle Concept

Definitions

Assumptions "Life Cycle Concept" can be defined in terms of three assumptions. Two of the assumptions explain the life cycle in terms of change. The organization changes due to a dialetical change process and/or as a result of its evolution through successively more complex stages of development. A third assumption is based upon a biological metaphor that an organization evolves from birth to death.

It is inevitable that change will occur in an organization. Dialectical change is caused by turbulent conditions in the external or internal environment. As one problem caused by environment conditions is solved, a new problem develops resulting from resolution of the first problem. The organizational members learn how to solve their problems as they accumulate knowledge about the previous problems. That accumulated knowledge raises the organization to a new plateau in its life cycle (Blau, 1979).

The developmental stage concept states that an organization's basic structures evolve from simple formations to more complex structures. Lavoie and Culbert's (1978) description epitomizes the principles behind this theme. Those principles are:

1. In most organizations, the changes which characterize development follow more or less the same sequential pattern.
2. Under normal circumstances progressive changes will not easily reverse themselves.
3. Developmental change is a change in the quality of response (format, pattern, structure, etc.) and not merely in the frequency of correctness according to an external criteria such as profitability.

4. Developmental changes affect a broad range of organizational activities and responses.
5. Developmental change is hierarchical, that is, later forms will dominate and integrate earlier ones (p. 418-419).

In this assumption the status quo is constantly changing as the organization moves from stage to stage.

The biological metaphor assumption can best be examined by describing it in terms of individual growth. Human beings are born into the world. The analogy in organizations is that an organization is started by a person or group of people. After birth the individual grows and develops into adolescence. That period of human development is comparable to a period of growth in an organization where the identity and character of that organization are established. People then begin to decline after a mature period. Unless new markets are uncovered, organizations also decline after their markets are saturated (Myer and Merrill, 1984).

Each assumption views the life cycle in a different way. However, all of the assumptions view the organization as evolving into a progressively more sophisticated social system.

Theorists also write about the phases of an organizations' life cycle. Those phases are - the

creation and early development period, a formalization stage and a period of transition and decline.

Some Issues in Organizational Creation, Transition and Decline

Life cycle theorists explore organizational issues in three distinct periods - the organizations' creation, its transitions and its decline (Kimberly, 1979, Whetten, 1980, Kimberly and Quinn, 1984).

Organizations can best be understood by examining the issues in their history (Sarason, 1972, Kimberly, 1979). That historical perspective is expanded on by Sarason (1972) when he asserts that to truly understand an organization one must "explain the context of its creation and development" (p. 24).

Organizational Creation and Early Development

The birth and early developments in an organization appear to set the stage for later organizational transitions. Kimberly (1979) expands on the importance of that early period claiming:

> There is the possibility, at least, that just as for a child, the conditions under which an organization is born and the course of its early development in infancy have significant consequences for its later life. Just as one might be interested in similarities and differences in the backgrounds of executives as one element in an explanation of the linear personal success, so might they be interested in the backgrounds of organizations (p. 438).

Innovation and the environment appear to influence the organization most in its gestation period.

Innovation is usually associated with the founder of an organization or some other strong personality. Sarason (1972) describes that connection.

> For example, if you wish to understand the creation and development of the Ford Motor Company, you have to understand the kind of person Henry Ford was: his habits, ways of thinking, goals, values and so on. Or if you want to understand how Menninger and Mayo Clinics were created and developed you have to know what the brothers Menninger and Mayo were like - their personal, intellectual and professional histories (p. 24).

These early innovators were a venturesome breed that were willing to take chances. The success of those innovators, along with other factors, determined if an organization would survive its early years (Kimberly, 1984).

Kimberly (1981) took a slightly different view of the importance of an innovator in the early stage of an organizations life cycle. He saw the success of innovation as being tied to groups of people as units in an organization versus the individual. Kimberly (1981) states that perspective best by claiming:

> Managerial innovations are adopted by organizations not individual people. Although personal commitment may be a necessary condition for organization adoption, it is not sufficient. Typically, many people as sub-units within an organization must support - or at least not openly resist - a managerial innovation before it is adopted (p. 88).

That perspective differs from Sarasons' (1972) where the innovator is of prime importance to the organization during its formative years.

Once the organization has created itself it must contend with the environment in order to develop into its next life cycle phase. Starbuck (1965) goes as far as to state that "one can say nothing about an organization without saying something about its environment and an organizations' need for satisfactory interactive relationships with its environment" (p. 408). The point seems to be that constructive relationships with the environment enable an organization to develop.

A variation of the environmental perspective was expressed by Pfeffer and Salanick (1978) who both agree with Starbuck (1965) that organizations need to have a satisfactory relationship with their environment. They go one step further to claim that management must manage that interface with the environment (Pfeffer and Salanick, 1978). That role is stated best by Pfeffer and Salanick when they state that:

> In the first place, management serves as a symbol of the organization and its actions - managers are people to fire when things go poorly, an act that reinforces the feeling of control over organizational actions and results. The symbolic role of management though as yet unexplored, can be systematically examined. In addition to its symbolic role, management can adjust and alter the social context surrounding the organization

> or can facilitate the organizations adjustment to its context. Both activities require understanding the social context and the interrelationship between the context and the organization (p. 21).

Starbuck (1965) comments on the importance of an organizations' interface with its environment. Pfeffer and Salanick (1978) take a more proactive perspective of the organization environment interface. Both, however, emphasize the influence environments have on an organizations evolution.

An organization is ready for the next stage of its evolution once it has created itself and managed the interface with its environment during the early years. In the next phase the organization changes and evolves into successively more complex formations (Lavoie and Calbert, 1978).

Organizational Transitions

Tsondero (1955) describes this stage in an organization's evolution as the formalization phase. In this phase, an organization's social relationships become standardized and the organization itself becomes more bureaucratic (Tsondero, 1955).

The issues in this period center around whether an organization should or should not formalize itself. Lodahl and Mitchell (1980) see the formalization of an organizazation as the beginning of its demise. Both suggest that the organization guard against the

formalization of itself. Lodahl and Mitchell suggest a cycle of vigilance be used to detect when there is a gap between the innovative idealogy of the organization and the reality of existing conditions (Lodahl and Mitchell, 1980).

Kimberly and Quinn (1984) take a different approach to the formalization issue. They believe that the transition to formalization is inevitable. In their opinion the issue is not to prevent formalization but understand it. Once an organization understands that it is in a period of formalization it can then manage itself.

A more neutral position is taken by Miller and Friesen (1980). They do not evaluate whether formalization is either good or bad. They simply describe the variables which an organization needs to to consider when adjusting to its environment during this period. In their concept an organization exhibits adaptation patterns during this stage. Those patterns are "characterized by evolution among environmental, structural, and strategy- making variables (p. 286)". The formalization patterns are described in these terms:

> Existing strategies and procedures become formalized and standardized so that operating authority can be delegated. Managers become more experienced with the stable organizational practices and can therefore be trusted to perform in line with expectations. Also, concrete standards can be set up to discover and correct deviations in managerial behavior

> operations. Past and mounting success, and the resultant build-up in resources are in part responsible for the greater reluctance to change and take risks. The more enduring terms in office of the top executive may be another reason for the continuity (p. 287).

If the formalization period is not navigated successfully then decline and even death of the organization may occur at this point.

Organizational Decline and Death

The literature on organizational decline and death is lacking at this time (Whetten, 1980). Whetten (1980) claims that the absence is the result of organizational theorists being concerned most with growth in organizations. Theoretical bias, according to Whetten is based upon three assumptions:

1) There is a positive correlation between size and age; consequently the greatest need of organizations as they mature is to manage growth.
2) Size is a desirable organizational characteristic - i.e. bigger and better.
3) Growth is synonymous with effectiveness (p. 577).

Issues that theorists, who overcome the previously mentioned bias, study are; energy loss in a declining or dying organization (Katz and Kahn, 1966), the management of decline (Boulding, 1975), societal responses to decline (Levine, 1978) inept decision making in a declining organization (Hall, 1976; Smart and Vertinsky) and the role of future policies in an environment where scarcity is the norm (Boseman and Shusher, 1979).

Katz and Kahn (1966) view the organization as a system that takes energy in from the environment, transforms that energy into a product or service and then puts that product or service back into the environment. The issue in this period according to Katz and Kahn is negative entropy. The law of negative entropy states that "systems survive and maintain their characteristic internal order only so long as they import from the environment more energy than they expend in the process of transformation and exportation" (p. 28).

Boulding (1975) focuses on a different issue - the management of decline. Boulding believes that this phenomenon is not managed because theorists either are unaware of it or deny its existence. Boulding believes it needs to be managed once it is acknowledged by theorists. In his opinion future managers will need to "think of more things that haven't been thought of" (p. 64). One of those things will be to consider the variables which contribute to an organization's decline. Boulding (1975) sees us as being ill equipped at this time to handle the declining organization issue. He notes a lack of interest in this issue.

Hall (1976) is a theorist interested in understanding how to manage decline. A simulated model would be used in his scheme to identify the problem(s) and the causes and

effects of those problems. The model approach is geared toward management solving causes rather than working on symptoms (Hall, 1976). Smart and Vertinsky (1977) share Hall's view that management is prone to poor decision making, especially in crisis situations. They suggest a conceptual model that would "increase the coping abilities of decision units" (p. 640).

That model aids management by preventing premature concensus, information distortion, judgement errors that result from faulty group dynamics and the generation of limited alternatives.

Levine (1978) focuses on the societal level of the organizational decline issue. In Levine's view society has two choices in an economy where organization decline rather than growth may become more of a reality. The first would be for the government to force resource allocation through a centralized mechanism. That choice could run into strong opposition because of our society's belief in freedom of choice. The second alternative is for society to change its assumptions about growth. Levine (1978) suggests that society change its values from a growth orientation to an "anti-growth or no-growth idealogy" (p. 323).

Boseman and Shusher (1979) agrees with Levine's (1978) view of shrinking organizational resources in the future. Scarcity, in their view, may lead to "structural rigidity,

formalization, habitual responses and increasing inter-organizational conflict - all potentially maladaptive" (p. 349). Boseman and Shusher (1979) suggest that the maladaptive future might be avoided or modified by policies that foster innovation and the organizational designs that would support those policies. Accepting Boseman and Shusher's premise brings one back to issues of innovation and creation.

Review of the Models

Theorists have developed specific models that detail the phenomenon and activities which occur in the life cycle phases.

Adizes Role and Role Combination Model

Adizes (1979) claims that the roles which organizational members perform must change as an organization evolves from stage to stage in its history. There are four roles in Adizes model: production, adminstration, entrepreneurship and integration. An organization must produce or achieve results to stay in business. That is the producing role. Organizations must also make decisions at the right time and in the right sequence.

That is the administrative role. And the organization must adapt to change. By taking risks and using creative ideas, the organization adapts to change. That is the entrepreneur role. Lastly, it is necessary to ensure the

future existence of an organization. A management team is needed to ensure the organization's continued existence. That role is called integration.

He suggests ten stages of growth:

1. Courtship Stage. In this stage there is a lack of organization and the key role is entrepreneurship. The courtship stage can best be described as dreaming about the future.

2. Infant Organization Stage. Dreaming declines and task behavior begins in this stage. The key role is one of producing results.

3. Go-Go Stage. This is a stage where everything looks like an opportunity to organizational members. They may want to try all the opportunities which are presented to them. The role of producing is still important and the entrepreneur role again emerges in this stage.

4. Adolescent Stage. The producing role declines in importance and the administrative role emerges in this stage. Entrepreneurship also declines in importance at this juncture.

5. Prime Stage. The roles of producing, administration and entrepreneurship all receive attention in this stage. Members know what the profit picture will be every quarter.

6. Mature Stage. The fourth role of integration emerges in this stage and becomes important in the organization. Integration is needed to build a team effort. The other three roles begin to decline and so does the organization.
7. Aristocratic Stage. The organization can now best be described as going "stale". The roles of producing and entrepreneurship decline. At the same time the administrative and integrative roles become dominant in the organization. Market share declines in this stage.
8. Early Bureaucracy Stage. The decline becomes evident to organization members in this stage and they begin to fight with each other.
9. Bureaucracy Stage. This is a stage where nothing gets done in the organization. The organization is run by administrative rules, procedures and systems.
10. Death Stage. Death occurs and the organization is dissolved. Death results from a poor utilization of the four roles of producing, administration, entrepreneurship and integration (Adizes, 1979).

The next model is the qualitative model. In this model roles are not as important as the way organizational members think, feel and behave.

Torbert Qualitative Model

Torbert (1974) feels that organizational members need to think, feel, and behave differently at different stages

of an organization's evolution. The nine stages of his model are described below.

1. Fantasia is the sharing of visions and possible futures.
2. Investment is the period during which organization members make a commitment to the organization.
3. Determination is when they transfer that commitment into measurable goals.
4. Experiment is when the organization begins to work on the goals set in stage three. The organization is testing itself in this stage.
5. Predefined productivity is when there is a focus on the production process.
6. Openly chosen structure is when organizational members begin to reflect about the broader purposes of the organization.
7. Foundational community is when a spiritual ground is reached by the organizational players.
8. Liberating diciplines is when organizational members experience a personal transformation. The individual becomes as important as the organization.
9. According to Torbert, the ninth stage is unknown. There is little currently known about this stage.

Lynden Functional Problem Solving Model

Lynden (1975) claims that organizations evolve as a result of the problems which are solved during four stages of development. The four problem areas needing attention are adaptation, integration, goal attainment, and pattern maintenance.

1. The problem of adaptation. The primary concern of most new organizations is to identify what needs to be done in that organization. In this stage the organization members are adapting to external pressures and internal dynamics.

2. The problem of integration. The next concern is to determine who does what and when in the organization.

3. The problem of goal attainment. Here the organization's concern moves from coordinating member activities to making an impact on society.

4. The problem of maintenance. A smoothly functioning organization is the primary goal of pattern maintenance. Changes in methods or goals are resisted in favor of a known pattern.

The next model explains the revolutionary type cycle that is in direct contrast to the qualitative models' more placid evolution.

Grenier Historical Model

Grenier's (1972) model is based upon an organization's history. Each phase of an organization's life cycle is influenced by an earlier stage of development. The turmoil in one stage causes evolution into the next stage of an organization's life cycle. Grenier's five phases of evolution are depicted below:

1. Phase one: Creativity. The emphasis is on the creation of a product which sells in the marketplace.
2. Phase two: Direction. This phase evolves as a result of management's demand for more autonomy in their work. The solution is to delegate more responsibility to managers.
3. Phase three: Delegation. The previous phases' solution becomes the problem in this phase. Delegation of responsibility to managers results in a multitude of uncoordinated activities. The solution in this phase is to develop systems for coordinating these activities.
4. Phase four: Coordination. Formal systems are instituted in order to achieve a greater coordination among organizational members. Those systems, however, begin to replace the innovation and performance which brought the organization to this stage of development.
5. Phase five: Collaboration. The organization starts to eliminate the bureaucracy created in phase four through the collaborative efforts of organizational members. That

collaboration can, however, cause psychological saturation in the management team. Grenier suggests that the solution to this saturation may be to develop organizational structures which allow managers to rest and reflect.

In the next model, not only is the emphasis on different phenomenon - organizational characteristics - but it also is on a different type of organization, the bureau.

Downs Bureau Model

This model is one of the first efforts to explain the life cycle process. Downs (1967) believed bureaus had three dominant characteristics. Those characteristics were: 1) initial domination by a charismatic leader, 2) a rapid growth period and 3) the tendency to seek support from the external environment.

Quinn and Cameron (1983) describe Downs' three stage model as follows:

Stage One. Stage one is primarily concerned with the organization's survival. A charismatic leader or group obtains the resources needed for the organization to exist.

Stage Two. Rapid growth is the dominant characteristic in stage two. Two other factors in this stage which received emphasis are creativity and innovation.

Stage Three. In the last phase elaborate rules and formal systems are developed to control and coordinate organizational activities. Growth may begin to decline if the organization ignores manager's or society's needs (Quinn and Cameron, 1983).

Katz and Khan Structure Model

In Katz and Khan's (1978) model, events are paramount to understanding the stage of development in an organization. Events develop as a result of exchanges between the internal and external environment. The exchanges, called patterns or structures, form each stage of the structure model:

Stage One: Exchanges between the work force and an environmental problem interact producing a primitive production structure. The main focus in this stage is on "technical proficiency".

Stage Two: In this stage an authority structure develops in the organization which is composed of two subsystems, the maintenance and managerial systems. The maintenance subsystem is concerned with stability and predictability in the organization. A second subsystem, the managerial system, deals with control, compromise and survival issues.

Stage Three: Supportive structures develop at an organization boundaries in stage three. These structures help organizations adapt to external events and changes within the organization.

In the last model to be discussed, power plays a dominant role in the formation of the stages.

Mintzberg Power Model

Mintzberg (1984) categorizes the power coalitions which are prominent at various points in time in order to determine the organizations stage of development. Those configurations lead to four organizational stages:

1. The Formation Stage. Power is concentrated on one leader in this stage of an organization's development. She hires the employees and creates the initial structure.
2. The Development Stage. In this stage power might be based with one of several administrators who take over after the death of the leader or a tenuous alliance may develop between the founding leader and technical experts.
3. The Maturity Stage. A closed system of power begins to emerge in this stage. Administrators use the organization's resources to meet their needs versus the demands of the market place.
4. The Decline Stage. Organizational members begin to fight with each other and politics becomes a normal business pattern. Organizational members also become more

self-indulgent. The only solution is for a strong leader to emerge and bring the group back to stage one. This is a management stage which is frequently called back to basics. The other alternative is organizational demise (Mintzberg, 1984).

Model Relevance

The studies reviewed thus far in this chapter suggest small business research lack scientific vigor (Posner, 1957/Murphy, 1986/Nelson, 1987). It appears that there is also not a lot of longitudinal research which focuses on the life cycle of a small business.

This study will not be a longitudinal investigation in the truest sense. However, it will use a research design to trace the firm's history through participant reflections. That historical approach should add effort to the number of research studies which exist in the small business literature.

The proposed study will use both the Cameron and Whetten (1983) and Tichy models.

Cameron and Whetten's Model

The Cameron and Whetten (1983) model will be used in this study because it is the most comprehensive of the life cycle models. Their model integrates ten life cycle models into one comprehensive format. The ten models that were incorporated into the Cameron and Whetten (1983)

model are: Downs' (1967), motivation for growth model; Lippitt and Schmidt's (1967), Critical Managerial Concerns model; Scott's (1971) Strategy and Structure model; Grenier's (1972), Problems Leading to Evolution and Revolution model; Adizes's (1979), Major Organizational Activities model; Kimberly's (1979) Internal Social Control, Structure of Work and Environmental Relations model; Child and Kieser's; (1981) Markets, Transactions, and Structure model; Torbert's (1974) Mentality of Members model; Lyden's (1975) Functional Problems model; and Katz and Kahn's (1978) Organizational Structure model.

The integrated model is a four stage model. That model is depicted as follows:

An Integration of Ten Life Cycle Models

Summary Model

1. Entrepreneurial Stage
   - Marshalling of resources
   - Multiple and diverse ideas
   - Entrepreneurial activities
   - Little planning and coordination
   - Formation of a "niche"
   - "Prime mover" has power

2. Collectivity Stage
   - Informal communication and structure
   - Sense of collectivity
   - Long hours spent
   - Sense of mission
   - Innovation continues
   - High commitment

3. Formalization and Control Stage
   - Formalization or rules
   - Stable structure

- Emphasis on efficiency and maintenance
- Conservatism
- Institutionalized procedures

4. Elaboration of Structure Stage
   - Elaboration of structure
   - Decentralization
   - Domain expansion
   - Adaptation
   - Renewal (Cameron and Whetten, 1983, p. 284)

The summary model integrates characteristics that were typical in each of the ten models during the maturation process.

Tichy's Model

Tichy's (1983) model was also used in this study because it allowed for a contrasting perspective on organizational change. Tichy (1983) argues that organizational changes can be explained best by looking at how an organizations responds to uncertainties about environmental threats, opportunities, organization size or technological trend information. Instead of explaining change in terms of the maturation process, Tichy (1983) claims that environmental uncertainties about opportunities, threats, an organization's size or technological trends cause problems in one or all three sub-systems in an organization. The three sub-systems are technical, political and cultural systems.

In the technical sub-system, problems with production uncertainties need to be resolved for the organization to adjust and survive. Problems with the allocation of power and resources need to be resolved in the political sub-

system if an organization is to survive. In other words, uncertainties about who decides on how to use organizational resources and how those resources will be used need to be resolved in this sub-system. The third sub-system is called the cultural system. The organization needs to resolve uncertainties regarding people's values and beliefs in this sub-system. If there are divergent beliefs which are causing problems, those conflicts need to be resolved for the organization to survive.

Tichey (1983) also believes that organizations are dynamic and always undergoing change. Therefore, the technical, political and cultural problems are never completely resolved as an organization evolves over time.

A strength of the model which was used in this study is that it permitted the researcher to analyze the organization's evolution from contrasting viewpoints. Did the company mature along the lines espoused by Cameron and Whetten (1983) or did that organization evolve as a result of responses to uncertainties in the environment.

This study may conclude that the organization's evolution can be explained in terms of both Cameron and Whetten's (1983) and Tichy's (1983) theories or some combination of both. An alternate conclusion is that neither model will explain the evolution of the organization.

The assumptions, issues, and models reviewed clearly demonstrate the viability of the life cycle concept. Three assumptions emerged from the literature - dialectical changes, stage development and the biological metaphor. Two deal with process - dialectical change and stage developmental. Dialectical changes occur as a result of turbulent conditions in the environment and stage development is a process which occurs when organizations evolve from simple to more complex structures.

The biological metaphor views an organization's evolution as similar to human development. The literature also suggested that organizations pass through life cycle phases - a creation, period of transition and a decline. Lastly, the models (Adizes, 1979; Tobert, 1974; Lyden, 1975; Grenier, 1972; Downs, 1967; Katz and Kahn, 1978; Mintzberg, 1984; and Cameron and Whetten, 1983, presented organization evolution in different ways. However, all agreed that organizations move through a life cycle.

Summary

The life cycle literature was reviewed. The concept of an organization evolving through an evolutionary process was examined. The current state of research including discursive writings, case studies, field surveys and field research investigations in small business organizations were reviewed.

The chapter included an explanation of why Cameron and Whetten's (1983) and Tichy's (1983) models were chosen to investigate the company's evolution. The Cameron and Whetten (1988) model was used because it is the most comprehensive of the life cycle models. Tichy's (1983) model was used because it permitted the researcher a contrasting perspective from Cameron and Whetten's perspective which is more developmental. In addition, both models were relevent to this study since they were the ones used by Rosen (1986).

CHAPTER III

METHODOLOGY

Introduction

This chapter reviews the research methods and procedures. The overall design strategy is described including the rationale for using a qualitative design and the case study approach. The data collection methodology is described, including a detailed description of the critical incident format used to establish data-gathering boundaries as well as the interview tool used to collect data within those boundaries. The third section describes how Noel Tichy's TPC (technical, political, cultural subsystems) framework and Cameron and Whetten's four stage developmental model were used to analyze the data. The chapter concludes with a description of a pilot interview used to refine the coding system and interview format used in the study.

Design Strategy

A qualitative research design was used in this study to trace and analyze the history of a family run entrepreneurial organization from its birth in 1975 to 1989. A descriptive style was used to highlight the patterns and themes that occurred during the organization's history.

That approach was clearly warranted since qualitative studies:

> Are a source of well-grounded rich descriptions and explanations of processes occurring in local contexts. With qualitative data, one can preserve chronological flow, assess local casuality and devise fruitful explanations (Miles and Huberman, p13).

The history is described in narrative form instead of numbers. Words are the main-stay of qualitative research. The usefulness of words in research is expanded upon by Miles and Huberman (1984):

> Words, especially when they are organized into incidents or stories, have a concrete, vivid, meaningful flavor that often proves far more convincing to a reader - another researcher, a policy maker, a practitioner - than pages of numbers (p.15).

Qualitative research also seeks to describe and develop an understanding of how interactions influence a social situation (Locke, Spirduso and Silverman, 1987). This study attempted to describe and analyze the interactions which influenced a small family-run entrepreneurial company's history.

An investigation of those interactions was done using the case study approach. Using this method, a researcher seeks to explain how and why a set of events occurred over time (Yin, 1984). Robert Yin (1984) claims that this type of analytical research is superior to other qualitative methods when explaining the "how" and "why" of events. In

this study the researcher attempted to illuminate the how and why of the organization's evolution. For instance, why were certain decisions made, how were they made, and what were the consequences (Yin 1984)?

An in-depth picture of the organization emerged from understanding how and why decisions were made over time. Borg and Gall (1983) state that an in-depth understanding of events is the primary rationale for using the case study method.

The case study approach previously has been used to illuminate the life cycle in a voluntary organization (Rosen 1986) a medical school (Kimberly, 1979) and a mental health organization (Quinn and Cameron, 1983). All used Noel Tichy's and/or Cameron and Whetten's models, thus adding to what we know about the life cycle of organizations. However, the life cycle of a small family-run entrepreneurial organization has never been examined using the case study approach. Knowing more about the life cycle of small family-run entrepreneurial organizations may give insights into why this type of organization has such a high failure rate.

Data Collection

The data were gathered in two phases. Critical incident time frame boundaries were established and divided into six periods. The periods were established by interviewing study participants about the critical events

in JRW's history. Time frame boundries were then developed from the interviews about critical events. The researcherthen collected data about events occurring during those six periods using the Tichy's (1983) open system model.

Phase One

Selection of Sample On April 18, 1989 the researcher met with the owner of the company and the vice president of operations, to give them an overview of the study and to determine the research sample.

During the meeting the owner, the vice president of operations and the researcher agreed that a cross section of employees would be interviewed.

The research site employs 62 people. Fourteen of the employees are in management and 48 are hourly workers; 3 of the 14 management employees are supervisors. To assure representation in each group of employees the researcher selected from each level of the organization - top management, middle management, supervisors and hourly employees, Ten interviews were conducted in this study. In top management, the owner/president, his wife/treasurer and son, the vice president of operations were interviewed.

In the middle management level the production manager and the quality assurance manager were interviewed.

Two supervisors, a present and former supervisor, were

interviewed in the supervisory category. The supervisors were interviewed together and were counted as one interview. In the last level two hourly workers were interviewed. The employees were also interviewed together and counted as one interview.

Several people who were associated with the firm were also included in the original sample: A Technical Manager from the Company's main supplier, their Accountant and a Sales Representative.

Critical Incidents Each individual or group (supervisors and employees) was interviewed for approximately a half hour during May and June of 1989. Interviewees were asked to tell what they thought were the most critical events in JRW's history. That interview form is in Appendix A.

The researcher then analyzed those interviews for patterns and themes. The researcher first organized all the suggestions from interviewees into a critical incident summary (see Appendix D). The critical events were listed chronologically in the left hand column. Duplications were noted in the right had column labeled Times Mentioned. For example, the Dog Bone account was mentioned by four people. Scanning the kinds of critical incidents mentioned suggested the different themes. Statements such as "Amtrol places large orders 1980-1984" and "loss of NPC account" supported a sales theme. In

the Event/Date column, machines were repeatedly mentioned by respondents. This was the second theme gleaned from the interviews (see Appendix D).

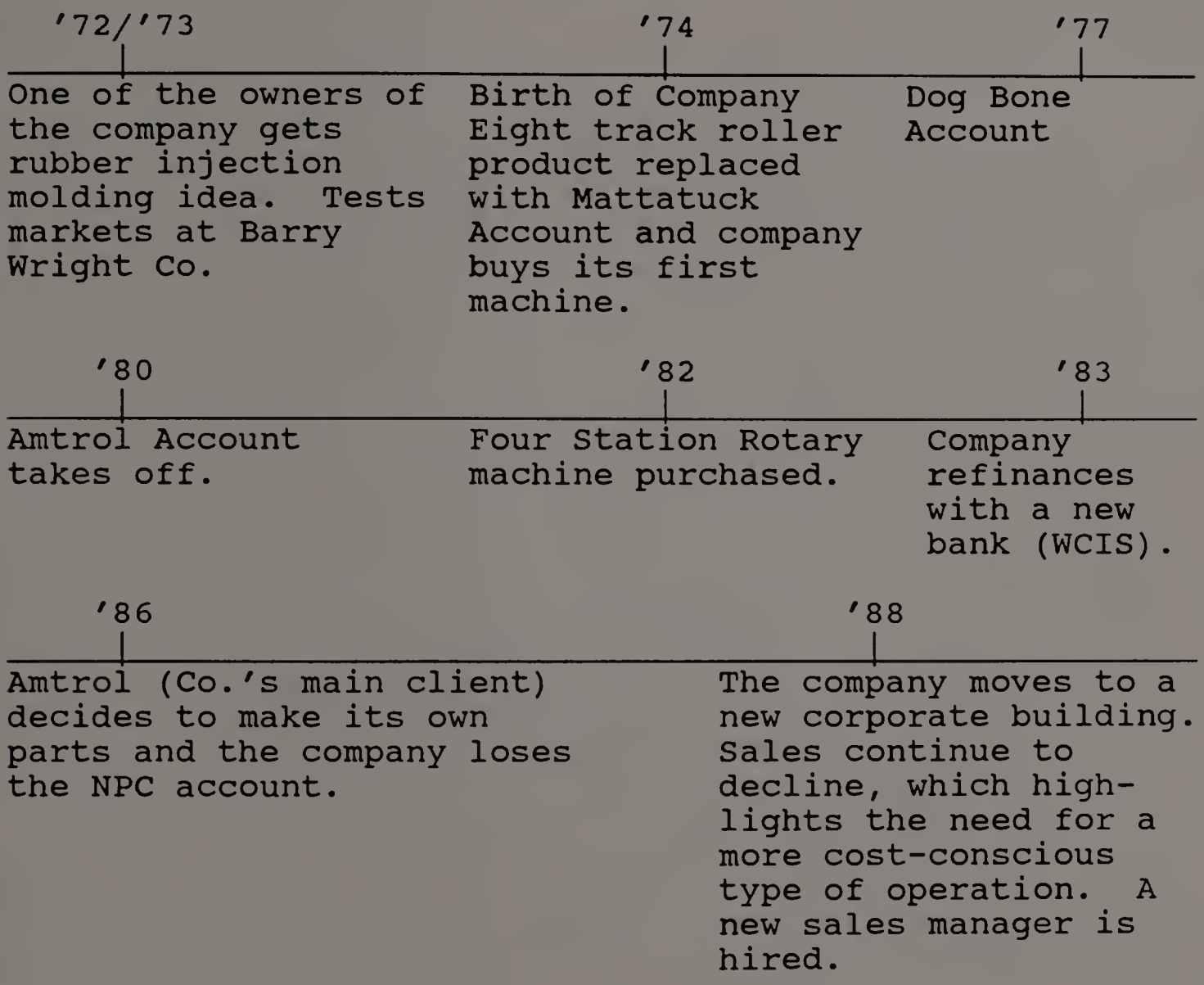
A third theme that appears repeatedly is the Crisis Theme (see Appendix D). In the first column of the matrix, low working capital and the loss of major accounts (NPC and Amtrol) is noted in several places. The researcher grouped an assortment of events and labeled it the Miscellaneous Theme. These miscellaneous events seemed to play a prominent role in discussions with interviewees and were not mentioned in the other themes (see Appendix D). The Open Theme was added anticipating that no one theme might capture the essence of the company's history (see Appendix D).

Once the analysis was complete, the researcher sent the critical incident summary and themes (Appendix D and E) back to the interviewees to review prior to the next meeting. The purpose of that group meeting was to achieve agreement on the critical events.

All but three of the interviewees met and reached an agreement on JRW's critical incidents. To reach that agreement, the researcher split the group into two smaller groups and asked each group to review the themes and then arrive at a single critical incident history. A stratified sampling approach was used so that all levels

of employees would be represented in each group. Both time lines are displayed below:

GROUP ONE



GROUP TWO

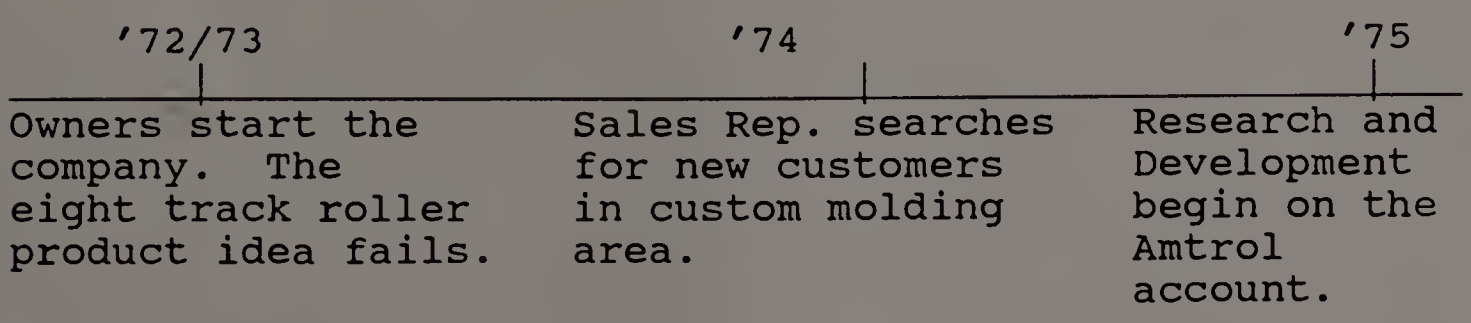


Figure 1
Groups Develop Themes

continued next page

Figure 1 continued

'78/79	'80	'81-83	'83
Dog Bone Acct. is secured by the company.	The Co. ships 20 million Amtrol parts which are rejected by Amtrol.	The bugs were worked out of the Amtrol parts and Mattatuck, as well as Ray-O-Vac, increase business.	Cash flow increases and the company refinances with WCIS.

'86	'87/88	89
Amtrol starts to produce its own parts and the Co. loses its NPC account.	New products start coming into the Co. (H&H and B&D).	Move to the new plant.

The two groups were then reconvened into one large group and asked to develop one history line. That line is displayed below:

PERIOD I	PERIOD II	PERIOD III
'74/75	'76/77	'80
Owners start with the idea of producing eight track rollers. Sales Rep. searches out Mattatuck when the eight track idea fails.	A low cash flow is caused by Amtrol research and development efforts. The Dog Bone Account	Amtrol takes off and company sales increase.

PERIOD IV	PERIOD V
'83	'86
Cash flow increases and the company refinances with WCIS, a Worcester County bank.	Amtrol begins to produce its own parts and company loses the NPC account.

Figure 2
Groups Combine Themes

continued next page

Figure 2 continued

PERIOD VI FUTURE

'88/89

Company moves to the new building. Sales continue to decline. The company begins to operate in a more cost-conscious manner and a new sales manager is hired.

Letters were sent to the study participants who were absent from that meeting asking them to either verify the time line or suggest changes. Two of the three letters were returned to the researcher. Both confirmed the time line, which meant that thirteen of the fourteen, or 93%, of the critical incident interview participants had agreed as to the critical incidents.

To verify the accuracy of the critical incident line dates, the researcher enlisted the company's treasurer who provided the researcher with documents that confirmed the time line dates. A Massachusetts Department of Revenue document dated March 9, 1983, confirmed the fact that the company was indeed started in 1975. The Dog Bone account date was validated by a letter sent from Hasbro Industries on September 20, 1977. An increase in sales was substantiated by company records. Those records, an income state- ment and financial notes, show a net jump in sales of $456,076 from 1979 to 1980. The Amtrol account was responsible for that increase and it represented 75% of their business. The 1983 bank refinancing date was confirmed by a financing agreement note dated July 13,

1983. Letters from the company's Sales Manager and its General Manager show that Amtrol was beginning to reduce its orders in the 1986-87 period. Purchase orders from NPC show that orders decreased from 1985 through 1986 when the last order was filled by the company. Those documents support the 1986 date. All of the above documents can be located in Appendix F.

Phase Two

Open Systems Model Once the six critcal incident periods were established the researcher then conducted ten interviews. The interview format was developed from Noel Tichy's open systems model (see Appendix B for interview guide).

The open systems model organizes organizations along eight dimensions. They are:

1. Inputs: These are the history, environmental context of opportunities and constraint, and resources (money, technology, people characteristics, reputation and good will) of the organization.
2. Mission/Strategy/Objectives: This includes the organization's reason for being, its basic approach to carrying out its mission, its strategy, and its criteria for effectiveness; namely, the objectives.
3. Tasks: This refers to the technology or technologies by which the organization's work is accomplished.

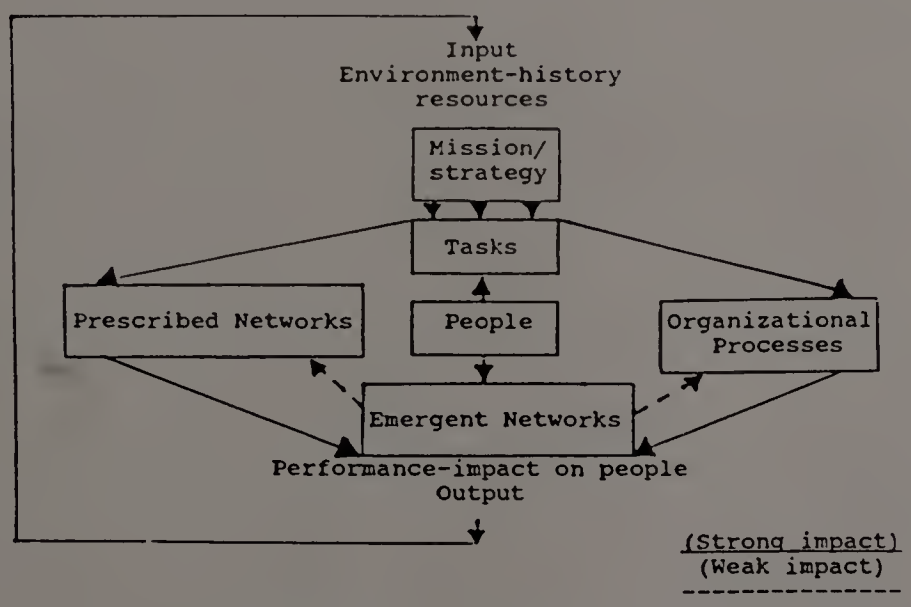
5. Prescribed Networks (Formal organization): This refers to the explicitly designed social structure of the organization. It includes the organization subunits, communication, and authority networks, as well as structural mechanisms for integrating the organization.

6. Organizational Processes: These are the mechanisms (communication, decision making, conflict management, control and reward) that enable the prescribed networks to carry out the dynamics of work.

7. Emergent Networks (Informal structures): These are the structures and processes that, while not planned or formally prescribed, inevitably emerge in the organization.

8. Output: This refers to the effectiveness of the organization (Tichy, 1983).

The eight dimensions are presented graphically in Figure 3:



(Source: Tichy, 1983, Page 73)

Figure 3

Open Systems Model

Data Gathering Techniques The study used two data gathering techniques: the interview and document analysis. These techniques enabled the researcher to gather data concerning the past, present and future of the company.

	Past	Present	Future
Interviews	X	X	X
Document Analysis	X	X	

The interview was the primary data gathering vehicle in this investigation. The researcher conducted in-depth interviews to gather information on the periods in the organization's evolution. The interviews lasted approximately one and a half to two hours. The interview established the employment date and length of service of each interviewee. The interviewer then collected data on the eight dimensions of the open systems model described earlier. Interviewees were asked about the dimensions mentioned above. Additional probe-type questions were asked when the initial questions did not satisfactorily cover the dimension.

In some cases documents were secured when the interview format was not appropriate. For instance, when the organi-
zation's structure could not be verified with an interview, the researcher secured organizational charts that described it.

Documents were also used to clear up differences in the recollection of participants regarding company situations.

Documents, such as business plans, mission statements and financial statements were used to verify participant's comments.

Reliability and Validity Four precautions were utilized to ensure the reliability of the data. First the findings were reviewed by four organizational members to determine the accuracy of the data. The member-check concept is elaborated on in a later section (Limitations) of the study. Multiple data sources was the second precaution that was used in this study. The study used both interviewee perspectives and documents. The third precaution used was multiple viewpoints. Different viewpoints were incorporated into the study when they could not be resolved through document analysis. The researcher considered his in-depth knowledge of the operations of the company to be a fourth precaution. During the last five years the researcher had worked for the company as a consultant. The knowledge gained was valuable when an interviewee was inaccurate when remembering past experiences. The researcher challenged the interviewee by surfacing a different recollection, thus increasing the accuracy of that member's recollection.

It is possible that the researcher's prior knowledge could result in researcher bias when collecting and analyzing the data. The member checks and multiple data sources guarded against that possible type of research error.

Data Analysis

The findings were analyzed according to the life cycle theories developed by Cameron and Whetten (1983) and Noel Tichy (1983). The findings of this study were also compared to Rosen's (1986) findings.

First, the findings were analyzed to see if the data supported the life cycle stage development concept as exposed by Cameron and Whetten (1983). Their propositions were also compared with the study findings to see if they were evident in the company's evolution.

Cameron and Whetten's (1983) concept is based upon the assumption that organizations pass through four distinct stages in their evolution: 1) Creativity and entrepreneurship. 2) Collectivity. 3) Formalization and control, and the elaboration of structure.

The Cameron and Whetten (1983) propositions that were tested in this study were:

Proposition 1: That the Cameron and Whetten model is applicable in understanding the life cycle of a small family run entrepreneurial organization.

Proposition 2: That organizations evolve through four progressive stages of development.

Proposition 3: That problems in lower developmental stages have to be resolved before an organization can evolve into
a higher stage of evolution.

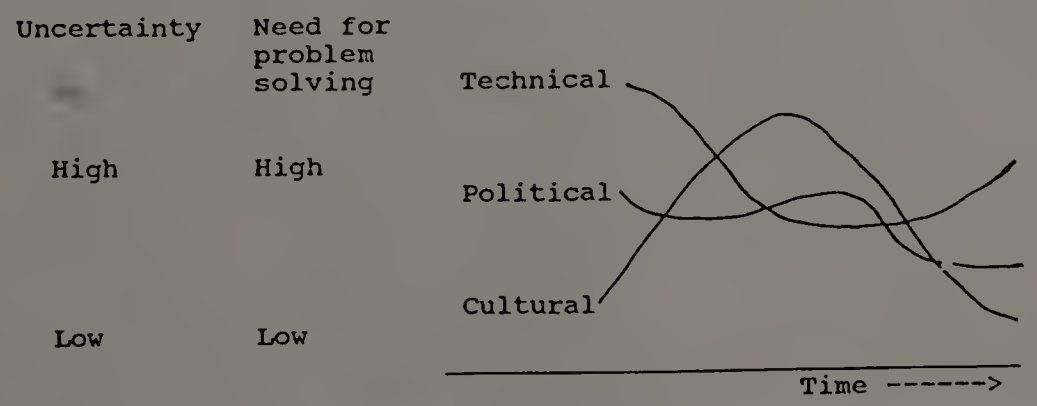
Proposition 4: That problems in the first three stages appear in the fourth stage and need to be resolved.

Proposition 5: That there is a predictable time period for each stage of evolution.

Proposition 6: That birth to maturity are predictable phases but subsequent phases are not predictable.

The findings were also analyzed by tracing the cycles in the company's evolution to see if their was evidence of Tichey's TPC Framework. In addition, they were scrutinized to see if there was evidence for Tichey's propositions during the study period.

Tichey's (1983) TPC Framework is based upon the assumption that organizational change occurs as a result of uncertainty - creating events. An example of how environmental uncertainty might manifest itself is displayed in Figure 4. below.



(Source: Tichy, 1983, page 12)

Figure 4

Environment Uncertainty

Figure 4 shows that when uncertainty-creating events are high in the external or internal environment, those events trigger a need for problem solving in one or more problem areas. The three possible problem areas are defined as technical, political and cultural. If uncertainty is low or average in the external or internal environment, then the need for problem solving is reduced in one or more of these areas. A description of each area follows:

1. Technical Design Problem: Social, financial and technical sources must be arranged so that the organization produces the desired output. In order to solve this problem, management engages in goal setting, strategy formulation, organization design, and the design of management systems.

2. Political Allocation Problem: The allocation of power and resources is the dilemma. The uses to which the organization is put as well as who reaps the benefits must be determined.

3. Cultural Problems: Organizations are held together by normative glue-shared beliefs, values, objectives and interpretations. The organization must determine what values are to be held by what people.

Tichy (1983) claims that organizations need to resolve problems in one or more of these areas in order for the organization to survive and evolve.

The theory also has a set of propositions which were tested to see if they are applicable in a small family-run entrepreneurial organization. Tichy's theory (1983) has four propositions, three of which were examined in this study. Those propositions are:

Proposition 1: The resolution of early, birth-stage problems in an organization is largely determined by which subsystem is dominant, i.e., technical, political, cultural.

Proposition 2: Uncertainty creating events have differential impact on the three organizational subsystems.

Proposition 3: Organizational subsystems are dialectical and trigger one another.

Proposition 4: Each subsystem has associated with it a distinct set of conceptual tools for dealing with uncertainty.

The last proposition will not be tested in this study because it is not within the scope of the research inquiry.

In the third part of the analysis, Rosen's (1986) findings, in a voluntary organization, were compared against this study's findings in a small family run entrepreneurial organization. That comparison was used to determine if Rosen's (1986) research methodology could be replicated in a different type organization - a small

family-run organization. Finally an integrated schema was developed which showed the themes and patterns of the company's evolution. It was organized according to the eight categories of Tichy's (1983) open systems model. Then the themes and patterns which emerged were organized according to the Cameron and Whetten's (1983) four stage life cycle model and Tichy's (1983) constructs of technical, political and cultural sub-systems. An example of that scheme is on the following page.

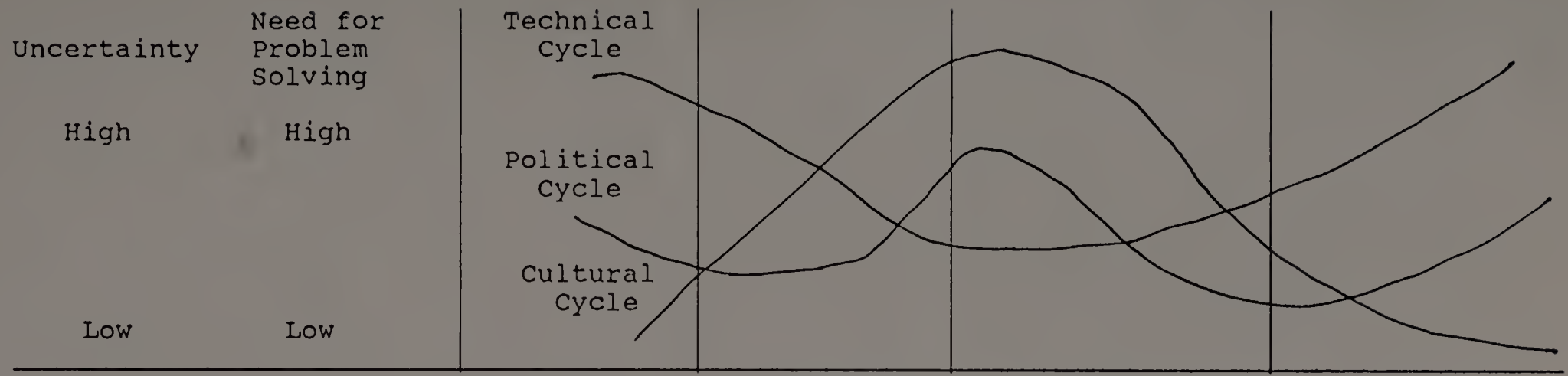
Pilot Study

Introduction

A pilot study was conducted to determine the reliability of the research codes and the effectiveness of the interview format.

Interview Format

The interview format was tested with the company president. The president was asked questions using the interview format in Appendix B. The interview format was subsequently shortened because it took three and a half to four hours. The researcher revised the format so only questions about each organizational component for each critical incident period were asked i.e. inputs, mission, tasks, prescribed network people, processes, emergent network and outputs. See Appendix J for revised format.



Organizational Components	Description of Characteristics
Environment	
Mission	
Tasks	
Processes	
Prescribed Structures	
People	
Emergent Networks	
Outputs	

Figure 5

Sample Integrated Analysis

Note: The curves of the cycles and labels of the phases are for purposes of example only. (Figure taken from Mark Rosen's 1986 dissertation)

All probes were eliminated from the format. An example of the abbreviated format is depicted below:

- Tell me about the key company goals at that time?
- Who set the goals?
- Did the company incorporate values in their goal setting?
- Were there any critical changes in the goals and why?

Eliminating the probes reduced the interview time from four hours to two hours without compromising the usefulness of the data.

CODES

The researcher developed a set of codes to organize the interview data into a format that could be analyzed later. Huberman and Miles (1984), two prominent qualitative researchers, suggest using codes to reduce data. They claim that codes:

> Are retrieval and organizing devices that allow the analyst to spot quickly, pull out, then cluster all the segments relating to the particular question, hypothesis, concept, or theme. Clustering sets the stage for analysis (p.56).

Codes were developed from the theoretical concepts of Tichy (1983) and Cameron and Whetten (1983). See Appendix H for those codes and their definitions. The codes were subjected to a process called double coding. Double coding is when two people code the same interview notes using the same codes.

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The researcher and Dr. M. Raphael coded the interview taped transcript of the pilot interview. The reason for the double coding was to test the reliability of the codes, i.e., the percentage of agreement between the coders. Coding was done twice, first to determine the percentage of agreement using codes based on Tichy's (1983) model and then a second time to verify the reliability of Cameron and Whetton's codes. Results of the inter-rater coding reliability using Tichy's codes are depicted in Table 3 below.

TABLE 3

Percentage of Agreements

Tichy's Codes

CODING DATE	9/16	9/17	9/18	9/20	9/21	9/23	9/24
TICHY MODEL	21%	58%	62%	71%	75%	50%	62%

Based on experience, familiarity and consistency in interpreting data coding agreement increased through 9/21, after the codes were redefined on 9/18. See Appendix F for redefined technical codes. A drop occurred on 9/23 when the coders began to attach political and cultural codes to transcribed notes. Both Dr. Raphael and the researcher felt code definitions on those sub-systems were vague and open to various interpretations. The codes were

revised and a marked increase occurred on 9/24. See Appendix F for redefined political and cultural subsystem codes.

The transcribed field notes were coded again. This time the coders used codes developed from Cameron and Whetton's model. The results of the inter-rater coding reliability using Cameron and Whetten codes are depicted in Table 4:

TABLE 4

Percentage of Agreements

Cameron and Whetten's Codes

CODING DATE	9/27	9/28	10/1
C & W MODEL	89%	79%	80%

An explanation of Table four follows. Initial coding agreements were high because the coders revised Cameron and Whetton codes before coding began on 9/27 (see Appendix G).

Lower agreement occurred on 9/28 because the coders differed on how to apply stage two and three codes. That difference was resolved by discussing the codes. On 10/1, the percentage increased slightly as a result of the previous discussion.

The double coding process increased the operational reliability of the codes.

Models

The findings of the president's interview were analyzed using Tichy's (1983) and Cameron and Whetten's (1983) models.

First, the findings were analyzed to see if any uncertainty had been created in each of Tichy's (1983) three subsystems, i.e., technical, political and cultural. An actual example of the analysis of one subsystem is depicted below in Figure 6.

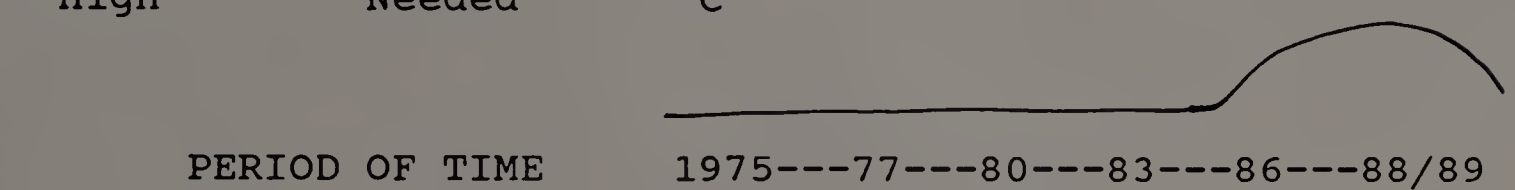

Figure 6

Cultural Subsystem Example

In the pilot, the data showed that the cultural subsystem changed when the owner of the company and his son, the vice president of operations, were at odds from 1986 to 1988 over whether to hire a family member or an outsider as their vice president of sales. A family member was hired in 1988 and the subsystem relaxed when he performed well in that position. The norm of using family members to fill key positions was evident. Analyses were also conducted to see if the other subsystems had adjusted to uncertainty in the company's history.

Tichey's propositions were also tested to see if the pilot findings supported them. All of Tichy's (1983) propositions, outlined in the theoretical section, and listed on page 66, were confirmed. For example, Tichy's third proposition states that organization's subsystems are dialectical and trigger one another. The cash flow crisis in JRW, a technical uncertainty, triggered arguments between the owners. Those arguments caused a political crisis which, in turn, resulted in one owner leaving.
That departure was a cultural adjustment since the company went from a partnership to a family-run business.

The pilot findings were also analyzed to see if they supported Cameron and Whetten's theory and propositions.

The findings were analyzed using Cameron and Whetten's four stage model. First the interview findings were coded using codes based on Cameron and Whetten's theory. Then displays were built from that coded data. These displays clearly showed the patterns and themes of how the organization had progressed through four stages.

The display for stage two of the company's history is presented in Table 5 on the next page. That display clearly shows that from 1977 to 1980, the company was indeed in a stage which reflected the activities and phenomena associated with Cameron and Whetten's stage two.

TABLE 5: Stage One and Two Events

PHENOMENA AND ACTIVITIES	STAGE ONE CREATIVITY AND ENTREPRENEURSHIP EVENTS PERIOD ONE 1975-1977	PHENOMENA AND ACTIVITIES	STAGE TWO COLLECTIVITY EVENTS PERIOD TWO 1977-1980
CREATIVITY & INNOVATION		INFORMAL COMMUNICATION AND STRUCTURE	-SEVERAL HIRES, I.E.: SAMPSON, SUSSOR, DAVE PENTLAND, KEN FLAHERTY, JEFF HARDY, BRIAN BROWN, EILEEN CRUCHNER. -TELEPHONE BOOTH METAPHOR. -OUTGOING INSPECTION DEPT. SET UP.
MARSHALLING OF RESOURCES		SENSE OF COLLECTIVITY	-SENSE OF A TEAM. -SOCIAL GROUP, I.E.: DAVID KENNY, BRIAN, JEFF AND EILEEN.
LITTLE COORDINATION OR PLANNING	-RUNNING OFF PRODUCTION BEFORE IT IS APPROVED.	LONG WORK HOURS	-GOOD WORK ETHIC OF YOUNG WORKERS.
NICHE FORMATION		SENSE OF MISSION	-MILLION DOLLAR SALES -MEL BUSINESS PLAN.
POWER OF PRIME MOVER		INNOVATION CONTINUES	
DEVELOPMENT OF EXTERNAL SUPPORT	-HASBRO ACCOUNT SAVES THE COMPANY FROM BANK TAKEOVER ATTEMPT.	HIGH COMMITMENT	-UNDER ACHIEVERS.
RESOURCE ACQUISITION	-1977 BANK TURNS JRW DOWN FOR ADDITIONAL MONEY	HUMAN RESOURCE DEVELOPMENT EMPHASIS	-SHARPENING UP THE PEOPLE THE COMPANY HAD HIRED UP TO THIS POINT, I.E.: TRADE SHOWS, TALKING TO PEOPLE AND EXPERIENCE.
SURVIVAL THRESHOLD	-BANK TRIES TO INSTALL THEIR MANAGEMENT AT JRW	SENSE OF FAMILY	-TREATED YOUNG WORKERS LIKE FAMILY.
LOTS OF IDEAS			

The characteristics associated with Cameron and Whetten's stage two are located in the third column of the display; the events which match those categories are listed under the 1977-80 period.

Cameron and Whetten's propositions were also tested in this step. For instance, the pilot findings showed that five of the six propositions applied to JRW in its evolution. Proposition five - that there is a predictable time period for each stage of evolution, was not confirmed by the findings. Proposition three was confirmed. That problems in lower developmental stages have to be resolved before an organization can evolve into a higher stage of evolution.

An example of this proposition was the company's struggle for sales. The company had to build sales in order to go from one stage to another stage.

An integrated schema display technique was used to test the validity of combining both Tichy's (1983) and Cameron and Whetten's theory (1983) in describing JRW's evolution. That display is presented in Figure 7.

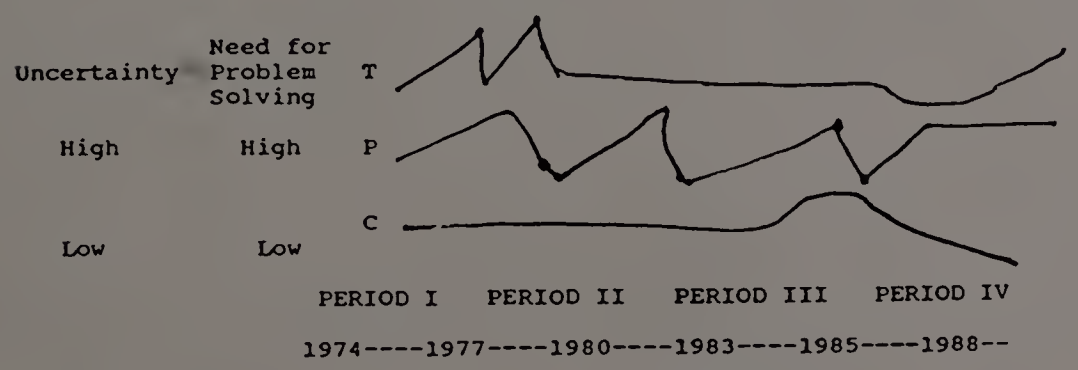

Figure 7

Pilot Integrated Schema

continued next page

Figure 7 continued

ORGANIZATIONAL COMPONENTS	PERIOD I CREATIVITY & ENTREPRENEURSHIP 1974-1977	PERIOD II COLLECTIVITY 1977-1980	PERIOD III FORMALIZATION & CONTROL 1980-1988/89	PERIOD IV ELABORATION OF STRUCTURE 1988/1989
ENVIRONMENT	TECHNOLOGICALLY OPEN MARKET.	HOSTILE BANKING SITUATION.	THE ECONOMY FLUCTUATES FROM A HIGH INFLATIONARY PERIOD TO A LOW INFLATION PERIOD. A GROWTH ECONOMY.	THE COMPANY'S FUTURE DEPENDS ON A POTENTIAL DOWN TURN IN THE NEXT 6 TO 24 MONTHS.
RESOURCES	LOANS AND EXPERIENCE OF OWNERS.	SEVERAL NEW MEMBERS HIRED, IE: ENGINEERS, SUPERVISORS AND WORKERS.	THE ORGANIZATION'S RESOURCES EXPAND IN TERMS OF MONEY CAPITAL AND PEOPLE.	RESOURCES HAVE DECLINED TO A POINT WHERE REFINANCING IS NECESSARY.
MISSION/ STRATEGY	EIGHT TRACK IDEA IS REPLACED BY CUSTOM MOLDING STRATEGY.	MILLION DOLLAR MISSION STRATEGY AND BUSINESS PLAN IS DEVELOPED.	THE COMPANY DEVELOPS A BUILD STRATEGY. SALES AND PROFIT GOALS ARE SET AND IN SOME CASES, ATTAINED.	THE OWNER'S VISION IS A $10 MILLION COMPANY.
TASKS	SIMPLE SYSTEM AND DAY TO DAY MGMT. PRODUCTION IS RUN OFF BEFORE IT IS CHECKED.	HRD SYSTEM, IE: YOUNG WORKERS DEVELOPED.	EQUIPMENT IS PURCHASED TO MEET THE BUILD STRATEGY. SALES RECRUITMENT EFFORTS BEGIN. ALL ACTIVITIES ARE FOCUSED ON BUILDING THE ORGANIZATION.	ORGANIZATIONAL RENEWAL DEPENDS UPON INCREASING SALES & INVENTING TECHNOLOGY.
PEOPLE	DICK PENTLAND IS THE PRIME MOVER. AN ENTREPRENEUR TYPE.	DICK PENTLAND CONTINUES TO BE THE PRIME MOVER BUT OTHERS ARE HIRED TO HANDLE THE COMPANY GROWTH AND COMPLEXITY.	NUMEROUS PEOPLE ARE HIRED FOR MANAGEMENT & PROFESSIONAL POSITIONS. SOME FROM INSIDE THE FAMILY AND SOME OUTSIDE THE FAMILY.	CONSULTANTS WILL BE USED TO HELP FINANCIAL OPERATIONS AND WITH RECRUITING.
PRESCRIBED NETWORK	LITTLE STRUCTURE AND ORGANIZATION. THE OWNERS DECIDE ON RESPONSIBILITIES.	TEAM TYPE OF ORGANIZATION. ONE BIG HAPPY FAMILY. YOUNGER WORKERS WITH LITTLE EXPERIENCE.	ROLES ARE FURTHER DEFINED AND DEPARTMENTS ARE BUILT.	THE OFFICE OPERATION WILL NEED TO BE REORGANIZED.
ORGANIZATIONAL PROCESSES	COMMUNICATION IS DESCRIBED USING THE TELEPHONE BOOTH METAPHOR. SIMPLE QUALITY CONTROL SYS. LITTLE PLANNING AND COORDINATION.	FIRST INSPECTION DEPARTMENT SET UP. COMMUNICATION CONTINUES TO BE TELEPHONE BOOTH LIKE.	FORMAL SYSTEMS GET DEVELOPED; IE: THE COMPUTER, MRP, SPC, ETC. CONFLICTS INCREASE & DECISION MAKING IS SHARED TO AN EXTENT.	THE OWNER AND FINANCIAL CONSULTANT PLAN FOR REFINANCING THE ORGANIZATION.
EMERGENT NETWORKS	NO NETWORK IS ESTABLISHED AT THIS POINT.	THE WORKERS BEGIN TO SOCIALIZE IN THEIR OFF HOURS.	MID LEVEL MANAGERS BEGIN TO INFLUENCE DECISIONS. A CONSULTING ATMOSPHERE EXISTS. THE ORIGINAL FACTORY GROUP CONTINUES TO SOCIALIZE.	TRADITIONAL STRUCTURE VS INFORMAL GRPS.
OUTPUTS	SURVIVED THE START UP COSTS AND BEGAN TO GENERATE SALES.	PROFIT IS MADE FOR THE FIRST TIME IN THIS PERIOD.	THE COMPANY CASH FLOW INCREASES IN THE BEGINNING OF THIS PERIOD AND DECLINES TOWARDS THE END OF THIS PERIOD.	UNCERTAIN FUTURE.

Figure 7

It shows how the company adjusted to uncertainty in the top portion of the display and how it evolved through four distinct stages, during its history, in the bottom portion of the display. Evidence, however, did not support an integrated schema in the pilot. The findings showed that both models did not simultaneously change during the company's evolution. The subsystems (TPC) appeared to change independent of the four developmental phases in JRW's evolution. Likewise, the four phases appeared to develop independent of subsystem (TPC) adjustments.

In the pilot the coding system was revised improving the reliability of codes. In addition, the interview format was abbreviated, reducing the interview time from four to two hours.

Study Limitations

There are several possible limitations that are inherent in this type of study.

First, there is the possibility of researcher bias. The researcher exercised every effort to eliminate bias through proper documentation. This was achieved by taping the interviews and analyzing a variety of documents. The interview findings were also reviewed by four organizational members and an outside expert for feedback about the researcher's coding and classification. The organizational members reviewed the findings for accuracy. Did the findings accurately reflect reality? Also, an outside expert reviewed the findings for technical accuracy and comprehensiveness. Were the theories of

Cameron and Whetten and Tichy accurately applied when analyzing research data? The organizational members that were used to verify the findings were the President, Production Manager, a supervisor and an employee. The outside expert was Dr. Michael Raphael, an organizational consultant who is an Industrial/Organizational psychologist and professor at Central Connecticut State University.

A second limitation of this study was its "universal generalizability". The research was generalizable to theoretical propositions and not to populations or universes. In this dissertation, the researcher investigated the feasibility of theoretical propositions and theories espoused by Noel Tichy (1983) and Cameron and Whetten (1983) in describing a small family-run entrepreneurial organization. The goal of this type of investigation was to expand and generalize about theories thus adding to an existing body of knowledge. In addition, this approach is well suited to understanding how and why decisions were made in an organization. Thus, adding to our knowledge about how and why decisions were made in a small family run entrepreneurial company (Yin, 1984).

The third limitation is the research subjects accuracy in recalling past events. To overcome this, the researcher used multiple sources in data gathering, of which only one involved human subjects. Documents, such

as memos, reports and planning documents were used to limit subject bias.

A fourth problem was the potential of managerial bias, since most of the subjects were part of management. To reduce the potential for this, the researcher used hourly subjects who have either been in the company for a significant period of time, or who have heard stories about the company's history.

Summary

In chapter three the methods and procedures of this study were described and elaborated on. A rationale was given as to why qualitative methodology was the strategy employed. The usefulness of a case study approach for this type of investigation was also established by describing earlier studies that used the case study format to investigate the life cycle in organizations.

Data collection procedures were outlined as well as a description of the model that was used to collect/organize and present the data.

The tools which were used in the data analysis were outlined and elaborated on in this chapter. Tichy's TPC Framework (technical, political and cultural subsystems) was outlined as well as Cameron and Whetten's four stage developmental model.

Chapter three closed with a description of the pilot and how it helped to refine the coding system and improve the interview format.

CHAPTER IV

PRESENTATION OF RESULTS

Introduction

The findings of this study are presented in six chronological periods and a pre-history period. Each period represents a series of years in the organization's evolution. The periods were developed from the recollections of the research subjects who were asked to identify critical dates in the company's history. The subjects, acting as a group, then organized those dates into time frames. For instance, the participants identified the first period in the company's history as 1975 - 1977. Similar time frames were established for the other periods. Company documents were used to verify the time frame dates.

The findings are presented in the following periods:

1. Pre-History
2. Period One: 1975 - 1977
3. Period Two: 1977 - 1980
4. Period Three: 1980 - 1983
5. Period Four: 1983 - 1986
6. Period Five: 1986 - 1988/89
7. Period Six: The Future

Each time period was further divided into the eight components of the open systems model: Inputs (environment and resources), Mission/Strategy/Objectives, Tasks,

Prescribed Organizational Structure, People, (formal organization structure), Organizational Processes, Emergent Networks (informal organization structures), and Outputs.

Only the findings that were identified by two or more research subjects or a combination of one subject and a company document were included.

Pre-History

The Economic Context and Background

The Economic Context To understand how and why JRW got started, it is important to understand the economic context prior to the company's inception as well as the owners' backgrounds.

The economic climate in 1972 - 1974 was not very good. One member of JRW described the economy as "at the bottom of a recession". That economic downturn contributed to the unemployment of many people in the United States. Two of those unemployed people were Richard Pentland and a second owner - the original owners of JRW.

Background Richard Pentland and the second owner lived near each other and were friends. They began to talk about starting a business during their unemployment. Their backgrounds complimented each other.

Richard Pentland started his career as a Technical Sales Engineer for Durez Plastics, a division of Hooker Chemical, and built his first territory into a 1.3 million sales area. Before he left Durez he was responsible for a 28% increase in the plastics business. Next Richard went to Die Molding Corporation where he learned about injection molding. He then went to Injectionics where he became General Sales Manager, and learned about costing and pricing. Richard Pentland left Injectionics to become a consultant at Barry Wright where he learned about rubber injection molding. He later used his knowledge about injection molding to start JRW.

The second owner, had a successful career in sales. He rose from lower level sales positions to Director of Marketing at E. L. Bruce Company. The second owner also held executive-level positions at American Heritage Manufacturing Company and at Bruce Ply Corporation.

Richard Pentland and the second owner's discussions, while unemployed, led to the formation of a business plan and the start of JRW in 1975.

Period One: 1975 - 1977

Input: Environment and Resources

Environment In 1975 there was virtually no injection molding technology available to United States producers of rubber products. Compression molding was the main rubber

technology in the United States. Injection molding technology, however, was soon to be brought over from Europe.

Richard Pentland and the second owner were pioneers in the use of injection molding technology. They indicated, in their first business plan, the following several reasons why an injection molding business would work in the United States:

A. Customer dissatisfaction with the service obtainable from the present suppliers of "mechanical rubber parts".

B. This segment of the industry was neither aggressive nor creative in its marketing approaches. Current suppliers had become complacent.

C. The uses of mechanical rubber parts were growing and could be further stimulated; the time was propitious.

D. Product quality standards did not, in some cases, satisfy customer's requirements.

E. The rubber industry appeared to be less affected by governmental constraints than did the plastics industry. Such governmental restrictions may favor a swing from plastics to rubber parts.

F. Some rubber parts earned "high price tags" due primarily to high waste factors inherent in existing processing machinery.

G. Many producers in the industry operated with large, multi-product manufacturing plants which reflect fixed costs.

The time appeared right for an injection molding business. Richard Pentland and the second owner realized this and decided to make rollers for the eight track stereo industry. To start that business they needed resources.

Resources The company was started with limited financing of $20,000 contributed by the owners. The owners also secured a $125,000 loan from Commerce Bank and Trust of Worcester, MA. through the office of the Small Business Administration (SBA). The owners used that loan to operate for several years. Unfortunately, the owners used their personal funds as well as the bank loan for operating the business, instead of earmarking their personal funds for living expenses. The combined funds were taxed at a higher business rate causing a poor cash flow situation. Eventually their operating capital dwindled down to almost zero. The owners applied to Commerce Bank and Trust for another loan to solve the poor cash flow problem but were turned down. Commerce Bank and Trust did, however, arrange for an emergency loan from the SBA. The loan was for

$75,000 at an interest rate of 5.78%. They also refinanced JRW's original loan from $125,000 to $150,000. The bank also tried to take over JRW by bringing in a buyer who was connected with the bank.

JRW purchased a Cincinnati Milacron rubber machine with the money it had prior to its cash crisis. The company also called B.B. Rubber, a supplier of rubber material and asked it to mix material for the Cincinnati machine.

One JRW employee described that period well when he said "I do not know how we survived working the way we were, with a Small Business loan and one machine".

The Company did, however, get one customer - Mattatuck, an automotive company. JRW supplied Mattatuck with rubber parts used in the assembly of automobiles.

Mission/Strategy/Objectives

The company began with the idea of manufacturing injection-molded rollers used in eight-track stereophonic cartridges. Major producers in that business were Data Packaging Corporation, Columbia Records, Capital Records, and RCA.

JRW's objectives, as stated in their business plan were:

A. To return to stockholders a high return on their invested capital.

B. To compete aggressively at a profit.

C. To earn large salaries for top management.

D. To penetrate a substantial market by manufacturing at efficient cost levels.

E. To establish a growth organization with an important position in the rubber molding industry.

Unfortunately, JRW never realized these objectives because the eight-track cartridge industry was replaced by cassette tapes before the company got into production.

That change resulted in the company redirecting its efforts to the custom components area which required more working capital. The sales potential and return on investment, however, was greater in that market.

JRW decided to use a price strategy in the custom molding market. Initially the company under-bid other custom molders to attract business and then raised its prices once the customers were pleased with its product. That strategy worked because it filled a niche in the marketplace. However, there were some lean times along the way.

In fact, one owner told his wife, "We do not have anything, so what can they take from us". That owner was referring to the bank's unwillingness to give them a loan in 1977. Refinancing was necessary for the business to continue to operate. The mission then became one of survival and the company's only hope was to gain enough new customers to overcome its cash flow crisis.

Mr. Pentland asked a friend of his, Robert Martin, to help him find that business. Mr. Martin owned his own representative company. Representative company's sell products for other companies.

Tasks

The owners were faced with a formidable task when they started JRW. Richard Pentland and the second owner were virtually introducing a new technology in the United States - the injection molding of rubber parts. That technology had been proven in Europe from 1969 - 1974. However, it was not widely used in the United States in 1975.

Injection molding technology promised several advantages over compression molding - the technology used at that time in the United States. Those advantages were:

A. Controlled process variables.
B. Significantly increased productivity.
C. Improved product consistency and quality.
D. Eliminated the need for highly skilled and highly trained molders.
E. Reduced manufacturing labor content.
F. Eliminated the 34 percent waste factor associated with current compression and transfer processes .
G. Permitted production of virtually flash-free (perfect) parts.

NOTE One organizational member claimed that injection molding technology would reduce the waste factor associated with transfer and compression molding by 5 to 10%. Greater emphasis was given to the 34% waste factor reduction mentioned in the business plan.

The owners knew very little at this time about operating a business. While both men worked hard, the lack of a plan resulted in a lot of inefficient effort. The owners did everything: they made, inspected, packaged, and shipped the parts.

Sales efforts resulted in the acquisition of two customers - Mattatuck Manufacturing Inc. and Ray-O-Vac Corporation. A major account, Hasbro Corporation, was obtained towards the end of this period and that additional cash revenue saved the company. JRW made rubber dog bones for Hasbro.

All was not cohesive at the end of that period. Several organizational members reported that during the sales calls it became apparent that the second owner did not have the skill or personality for sales work, which was one of his primary responsibilities.

The period ended with management developing a sense of urgency.

One member described the situation this way:

> I think one of the things that we learned as a company was to develop a sense of urgency about the things that we were doing no matter what they were, whether we were building tools, working on a process, getting a job started or getting the banking situation put together.

Prescribed Organizational Structure

There was a lack of structure in these early years. The company was primarily defined by peoples' responsibilities. Initially, the second owner was the President and Richard Pentland, the Executive Vice President and Treasurer. The second year they switched positions. Mr. Pentland's responsibilities included developing the technology and managing the manufacturing operation. The other owner also handled the Accounting end of the operation and developed the sales.

John Larson, a minor partner, helped Mr. Pentland with the production end of the operation. Mr. Martin helped the company generate sales and Jean Pentland handled the administrative duties. Mark Sussor was hired as an Engineer and Richard Pentland began to do the sales quoting as the other owner did not seem able to handle that role.

Gradually, as business began to increase, two or more machine operators were hired and the company began to operate three shifts. Mr. Pentland began to assume more general management duties as the company's staff began to

grow. The responsibilities were distributed by Richard Pentland at this time.

People

In this component the management styles and the background of key organizational members are explained.

Initially, the company was run by Richard Pentland and the second owner. Early in 1976 Mr. Pentland hired John Larson to supervise the manufacturing operation. John had previously worked for him at Barry Wright's molding operation.

Another key member was Robert Martin. Mr. Martin worked with the company as a sales representative. Mr. Pentland had known Robert in the plastics business for many years. Through Mr. Martin's efforts the company secured its first customer - Mattatuck Manufacturing Inc.

As previously mentioned Mark Sussor joined the company as an Engineer. Mark was a graduate of Worcester Academy and held a Bachelor of Science Degree in Mechanical Engineering from St. Lawrence University. Mark had previously worked for Barry Wright's molding operation. Mark left the company in the next period.

During the early years the owners did everything including operating the machines. Towards the end of this period the company hired several machine operators - David Pentland, Kenneth Flaherty and Jeffrey Hardy. Several

people reported that the early operators were a rebellious type and needed strict supervision. Richard Pentland managed the plant in an autocratic manner. That style worked well because of the rebellious nature of the employees and because the survival mode of the company at this time.

The first period closed with John Larson being let go by the company. JRW could no longer afford to employ Mr. Larson. The company bought back the ten percent stock portfolio given him. Frank Sampson was hired to replace John Larson. Frank assumed the Production Manager role John had performed at JRW.

The manpower numbers for this period are presented below in Figure 8:

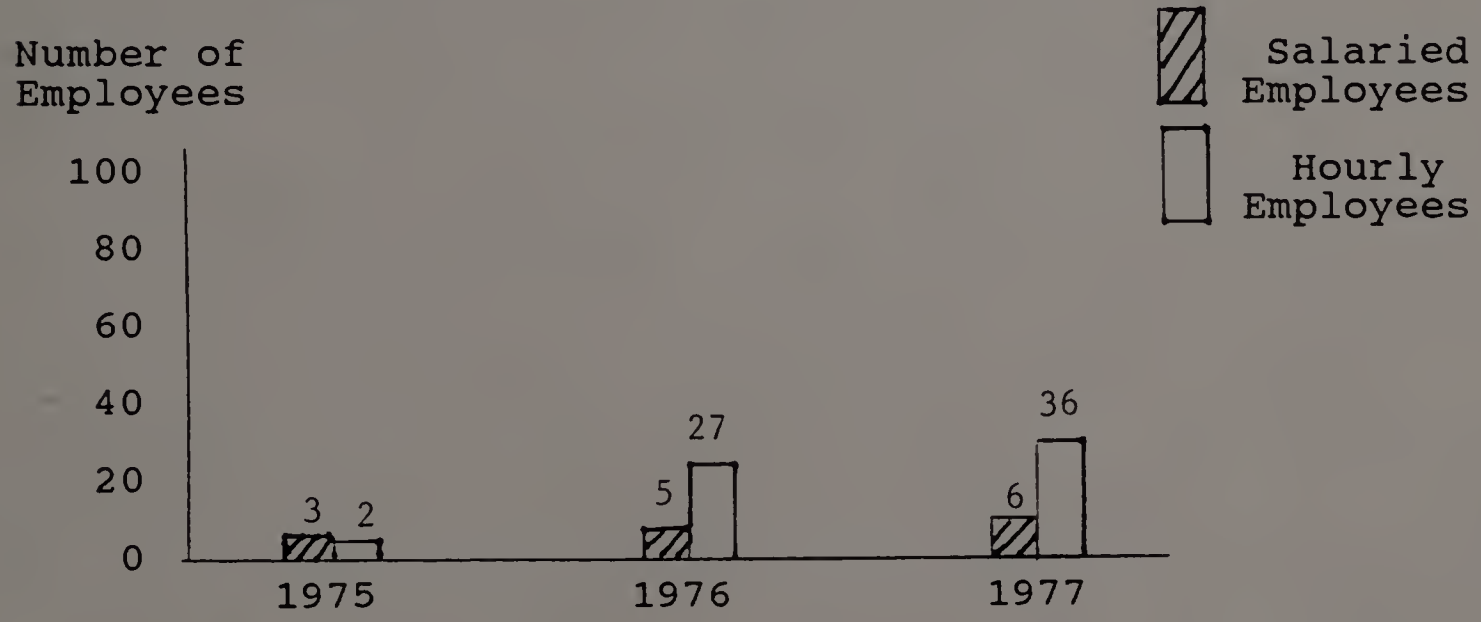

Figure 8

Period One Manpower Numbers

NOTE: The statistics are inflated because turnover is included in each years numbers. The numbers were derived from JRW's W2 forms.

Organizational Processes

This period represents a time when the company's processes were simplistic. For instance, quality control consisted of an employee checking parts before they went out the door. There was no budget system nor job descriptions.

The close physical distance between work stations dictated a word-of-mouth type communication system. All communication was verbal, some of which was heated at times. Richard Pentland would become excited if work was not being done properly. One member of the organization described the atmosphere as a "yelling" environment. Conflict between Mr. Pentland and the second owner surfaced in this period. Richard Pentland believed, along with other organizational members, that the second owner was not cut out for his job.

Decisions were made by the three owners - Richard Pentland, and the two other owners. Mr. Pentland and the second owner made most of the decisions. The third owner, John Larson, was a minority stock holder. The owners shared company information with the employees on a need to know basis. However, most employees knew of the company's financial problems because orders were not being obtained at this time.

As the company's financial situation improved some people were brought in from the outside or were promoted from within. Some of the outside hires were former business acquaintances of Richard Pentland. One of those business acquaintances was John Larson.

Emergent Network

Members worked closely with each other and therefore the whole company could be considered one informal group at this time. No group of organizational members formed a clique or cluster which impacted on the company's business.

Output

The goals, as set forth in the original business plan, were not realized at this point. The company had not started to make a profit and were making a very poor return on their investments. In addition, the top management group was not earning large wages and the company was not a growth type of organization. In short, none of the original goals were met at this time.

The owner's original objective of entering the eight track market had failed and they had switched to custom molding in order to survive as an organization.

A new goal which emerged at this time became to survive as an organization. Everyone pulled together and the company survived. The sales picture began to improve when the Hasbro account was secured in September of 1977.

Surviving the bad times gave the company the time to learn more about making injection molded rubber parts. That experience positioned the company well for its second period.

The Figure 9 shows the financial picture of JRW from March 1976 to March 1977.

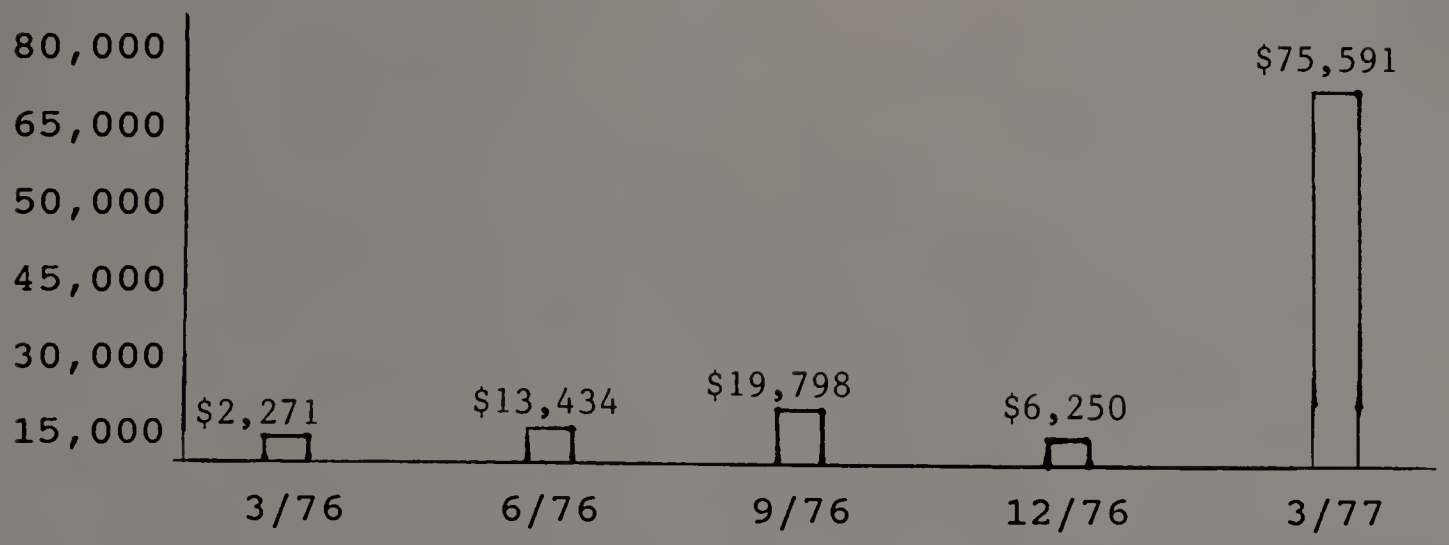

Figure 9

Sales Output for Period One

Period Two: 1977 - 1980

Input: Environment and Resources

Environment The economic environment in the United States had begun to stabilize as far as small custom molders were concerned, and JRW was beginning to emerge from its survival era. One organizational member described this period in this way. "It was not a down time, it was not a boom time either but it was moving". The improved business environment reduced the uncertainty with which the company had been dealing with in its early years.

Period two was characterized by a flurry of sales opportunities. First, the company contracted with Hasbro Corporation to produce rubber dog bones, tugs and balls.

The Hasbro account improved the company's cash flow permitting it to fight off a take over attempt by its bank's friends. In 1978 the company contracted with Amtrol Corporation, a building industry corporation, to make a 22 inch rubber diaphragm. The research and development effort took almost a year as JRW had to work out several bugs in the manufacturing process. One member referred to that Amtrol research and development time as "painfully slow". At the same time the company expanded its number of contracts with Mattatuck Corporation.

The company, however, did have problems. The petrochemical industry was raising its prices and Richard Pentland fought those raw material increases.

Resources The company now had clients in the automotive, building and consumer goods industries. The research and development and tooling costs needed to develop these new customers necessitated additional funds.

The company's cash flow had dwindled and the bank, as previously mentioned, would not give JRW another loan. Richard Pentland and his wife borrowed money from Robert Martin and relatives to increase their cash flow and stay in business.

The financial resources of JRW, even with the loans, were limited. One organizational member claimed that the company at one point "was low on cash funds and did not have enough cash to make payroll".

JRW's situation improved as the payments came in from the Dog Bone account and Amtrol. The additional funds allowed the company to purchase its second machine, the Rutital, to use for the Amtrol business.

The production of the company almost doubled during this time.

Mission/Strategy/Objectives

The company continued in its survival mission during the early part of this period. However, as payments began to come in from customers like Hasbro and Amtrol the mission adjusted to one of stabilization and growth, based upon the company's belief that the organization would not only survive, but it would grow. New customers had been contracted by the company and other customers were being sought at this time.

Richard Pentland set all the goals after the second owner left the company in 1979.

Tasks

During the entire period there was a sense of urgency displayed in the work. That urgency was manifested in its efforts to get more sales and increase its cash flow.

Richard Pentland and Robert Martin worked on increasing the sales. Mr. Pentland began to depend on Mr. Martin. Robert Martin, however, believed that Mr. Pentland needed a regular sales organization.

The entire operation was being managed by Mr. Pentland. He decided the production schedule, manpower needs and other operating issues. The manufacturing operation was basic in nature. Material was ordered and then the jobs were planned. Supervisors substituted for workers during break periods. Towards the end of this period the supervisors stopped doing the work and began to perform supervisory chores.

The company went from a work week of two to three days in the first period to six or seven days a week in the second period. The increase occurred as new customers were found and put under contract. New machines were purchased to handle that sales influx. Company records showed that a Rutital machine was purchased in 1978 at a cost of $100,130, a hefty sum in 1978. Payment for the machine was interest free for six months and then renewable at the option of JRW. That machine was dedicated to the Amtrol Account. Later in this period, in 1980, a second Cincinnati Milacron machine was purchased. More operators were hired to operate the machines.

The new technology (machines) helped to expand the organization's expertise. New jobs and machines gave the company an opportunity to learn by working with a variety of technologies. This was a valuable learning period.

Prescribed Organizational Structure

The company was not yet formally structured but moving in that direction. People were still mostly slotted by roles. Manufacturing was being supervised by Frank Sampson, an hourly worker, who was promoted to supervisor. Mark Sussor performed the engineering work, and several people were hired to operate the machines. Three of these machine operators were Brian Brown, Jeffrey Hardy and Kenneth Flaherty. Eventually Mr. Flaherty became the Production Manager and Brian and Jeffrey, supervisors. Eileen Crutcher also joined the company as a finisher, later becoming the company's Quality Control Manager. One organizational member described the new roles as the beginning of JRW's future team.

The informal structure established in Period One continued into Period Two - Richard Pentland as the owner and President, and Jean Pentland as the Treasurer.

Mr. Pentland continued to determine any structural changes and the distribution of authority.

Toward the end of this period a Finishing Department was formed to inspect the rubber parts produced in the manufacturing operation. The office area was also expanded and a waiting room was created.

People

Management and hourly turnover were severe in Period Two. In 1980 the hourly turnover rate was over six hundred percent. Part time office help was added.

David Pentland began to emerge as a leader. David was promoted from an operator to a supervisor. Kenneth Flaherty took a leadership role in the manufacturing operation. Both were under the direction of Frank Sampson who joined the company in 1977 and left the following year because he and Richard Pentland disagreed on decisions. Sampson was replaced by Frank Leonard who left after a short stay in 1979. In 1979 David Pentland and Kenneth Flaherty began to operate the manufacturing operation. Mark Sussor joined the company as a process engineer in 1977 and left in 1978.

A critical personnel move occurred in 1979 when the second owner was bought out by Richard and Jean Pentland and departed. The second owner and Richard Pentland had been at odds with each other for years. The second owner's departure resulted in the company's going from a partnership to a family-owned business. Richard Pentland was now totally in charge of JRW.

During this period Richard Pentland tried to promote people from within the organization. Mr. Pentland saw a number of the operators as under achievers (Kenneth Flaherty, Brian Brown and Jeffrey Hardy). As the period progressed these under achievers grew through experience, by performing their jobs, talking to industry people and by visiting trade shows.

The period closed with the nucleus of JRW's future team in place.

The manpower numbers for this period are presented below in figure 10:

Figure 10

Period Two Manpower Numbers

NOTE: The statistics are inflated because turnover is included in each years numbers. The numbers were derived from JRW's W2 forms.

Organizational Processes

This period is characterized by a series of conflicts, according to several organizational managers. Mr. Sampson and Mr. Pentland disagreed on decisions and Mr. Sampson left. In 1979, the next year, the second owner left after a long period of conflict with

Richard Pentland. Richard Pentland and David Pentland also began to clash at this point. The disagreements were kept to a minimum because David worked in the factory and they did not have frequent contact.

The Finishing Department was created, as previously mentioned in the prescribed structure component, as a result of parts being rejected by customers. An organizational member described that problem as: "I think we are paying a little more attention to quality now because we get a large bang on the head with a two by four when potential dollars are lost because we did not pay attention to quality".

The manufacturing system began to develop in this period. Scheduling sheets were designed to keep track of the production process and forms were created to monitor the material. While Manufacturing operations were written down for the first time, the operation was still not standardized. Problems arose when things fell between the cracks and people varied on their approach to the same problem.

Communication between organizational members continued to be verbal.

Decision making started to change at this point. Richard Pentland began to talk over his decisions with his managers as well as outsiders. David Pentland and Kenneth

Flaherty began to make decisions even though Mr. Pentland was still the final word on company matters. Richard Pentland's style, however, was still primarily autocratic.

Mr. Pentland controlled company information tightly at this point. There was no communication about the financial affairs of the company.

The employees remaining with the company during its financially troubled history were promoted when the company began to turn around in this period.

Emergent Network

The Pentlands treated their workers like a family at this point. When the young workers needed someone to listen, they were there for them. The Pentlands came to their assistance even when they were in trouble with the law. A cluster of workers began to develop as a social group at this point. David Pentland, Kenneth Flaherty, Brian Brown and Jeffrey Hardy became friends. Kenneth Flaherty and David Pentland began to give Richard Pentland advice on business matters and he began to listen to their opinions. Kenneth and David begin to influence the business by banding together on business matters. Mr. Pentland, however, still controlled the business and any decisions about the business.

Output

The company was still struggling to survive in the beginning of this period. However, as Amtrol increased

its orders and Mattituck gave the company more work, the company stabilized. In fact, the company started to make a quality product and was quite effective in attracting more customers. The company, however, was still not profitable but production increased and quality improved.

The company's financial picture for that period is described below:

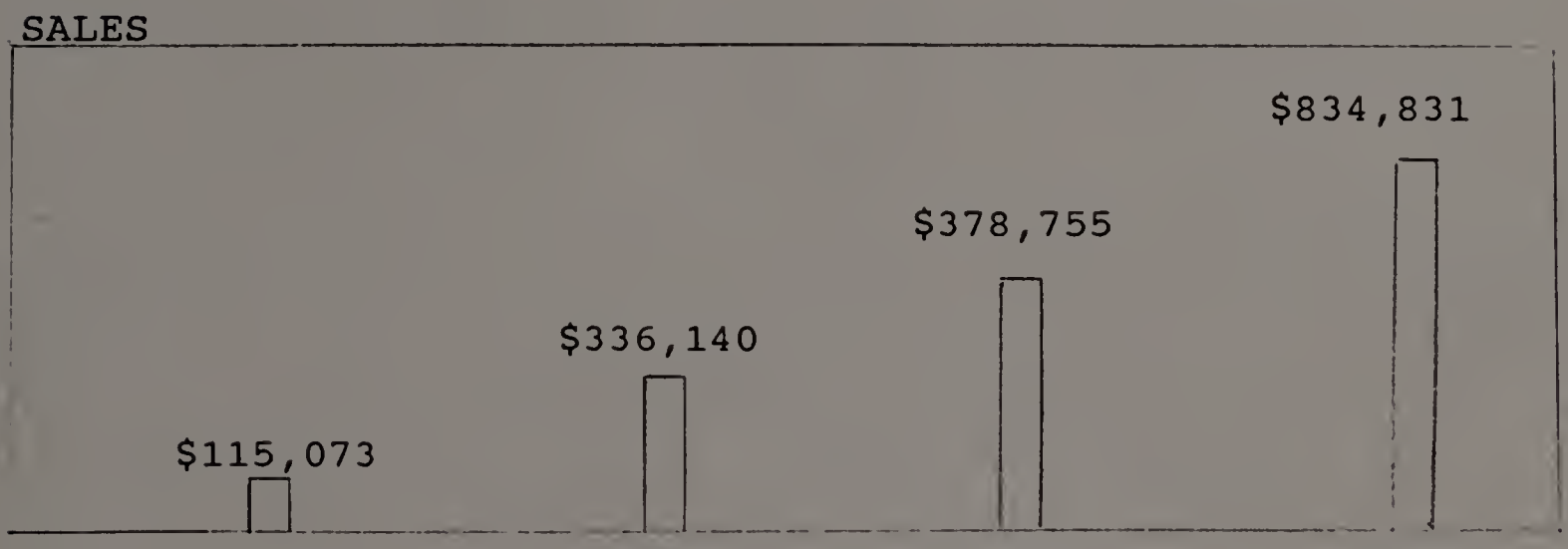

Figure 11

Sales Output for Period Two

Period Three: 1980 - 1983

Input: Environment and Resources

Environment The business environment for custom molders was generally good in the third period. The automobile industry was re-tooling for the emergence of small cars in the United States and that gave JRW many opportunities. The company was also benefitting from growth in the housing industry.

JRW had an opportunity to gain some of that business when one of Amtrol Corporation's suppliers (building industry company) could not meet its needs. Amtrol contracted with JRW to make a 15-inch diaphragm. The company also got a significant increase in orders from Mattituck, an automotive company. These external events had a big impact on JRW. A third customer was also contracted within this period - NPC, an environmental company that manufactured sewer connectors.

The financial stress and pressure which existed in the first two periods lessened in the third period. Simultaneously, the raw material prices stabilized in the petrochemical industry. The company switched its supplier at this point because of poor rubber material. JRW contracted with Polysar, a competitor of B.B. Rubber.

Resources The company now had more money which permitted them to pay off some of their debts and invest in more tools, supplies, material and other manufacturing needs. One organizational member claimed to have seen "ten, twenty and thirty thousand pounds of rubber material waiting to be made into parts". The company purchased two new machines in addition to other resources: the four station Rotary machine and a one station Desma machine.

JRW's reputation as a major purchaser of rubber material began to develop. One employee elaborated on

that situation stating that "once you are a factor in their eyes (rubber suppliers), then they talk about you in other places, and at least your competition learns who you are".

Mission/Strategy/Objectives

This period reflects the owner's desire to grow the business. The strategy was to crystalize the company's relationship with existing customers and develop new ones. Mr. Pentland had not formally defined his goals but the employees knew he wanted customer growth. More sales representatives were hired to help with the sales strategy. The original goal of turning a profit continued throughout this period.

The original owners' vision of beating the compression molders by using a price strategy had worked and JRW believed that their technology was as good or better than their competitors in the compression industry.

Richard Pentland continued to direct management in the achievement of the company goals during this period.

Tasks

Activities during this period reflected the company's emphasis on developing sales. The company enlarged its physical plant in this period by renting the space next door and the upstairs portion of the Holden, Massachusetts facility. The company also added two machines as previously mentioned in the Input component section. One organizational member claimed that the Rotary press machine, a four station press, was capable of producing

a large number of rubber parts "in the same amount of time as a single station press". He also claimed that the labor costs associated with this machine were lower than in a single station press.

The company continued to fine tune its operation while the expansion activities were being completed at the Holden facility. Tumblers were used to deflash rubber products, or take the burrs off. The molds which made the products were improved and supervisors started checking the products for quality problems.

The company continued to get the product out the door as fast as possible and, at a lower cost, during this period. High quality standards were also the norm in this period.

Towards the end of this period the company began to get concerned about keeping its employees happy. Though Richard Pentland continued to define what people did, he began to let others carry out his decisions.

The period closes with the company refinancing its operation with Worcester County Institution for Savings.

Prescribed Organizational Structure

Sales growth caused the company to begin to formalize its structure. The company moved from a role to department type of organization. Production was more of a department than a role and Finishing had formed into a department. Roles, however, continued to exist in the

company structure. A materials function was created and David Pentland took over the engineering function. Elaine McCourtney was hired and took over the administration of the office. The structure was now Richard Pentland as the President, Jean Pentland as Treasurer, Robert Martin as the Sales Representative, Kenneth Flaherty as the Production Manager, James Pike as a Materials Manager, Eileen Crutchner as the Finishing Supervisor and Elaine McCourtney as the Office Manager. The company continued to run three shifts with supervisors in charge of each shift. JRW added a layer of Assistant Supervisors and Foremen during this period.

Mr. Pentland was responsible for further structuring the organization. Authority was now passed from the top down. One member of the organization labelled that authority structure as "the chain of command".

People

Several new people were hired during this period and existing employees assumed more responsibility. Management and hourly employees were added in this period due to the increased sales. James Pike joined the company and took over the Materials function. James, a nephew of Richard Pentland, held the title of Assistant to the President. In that role he handled the Materials function and acted as Mr. Pentland's right hand man. One organizational member talked about his value stating that "James

Pike is beginning to have an impact on what we are doing and we listen to him". Elaine McGourtney also joined the company in this period and took over the office administration. She set up a performance review system and instituted payroll administration procedures. Robert Martin continued to head up the sales efforts and hired a number of sales representatives for JRW.

Several existing employees were promoted during this period. The company tried to match these employees' talents with new opportunities as the company grew. Kenneth Flaherty's role expanded in this period, becoming the Production Manager. In Mr. Flaherty's new role he was in charge of all production operations and finishing. Eileen Crutchner, an hourly employee, was promoted to Supervisor of Finishing, reporting to Kenneth Flaherty for a brief period.

David Pentland emerged as a leader in this period. He became the company's first Operations Manager. David was in charge of all manufacturing and engineering operations. Kenneth Flaherty was in charge of production and reported to David Pentland.

The management at JRW became too complex for one person and Mr. Pentland began to turn some of the responsibilities over to David and Kenneth. Richard Pentland tried to back
away from the day-to-day activities at JRW. However, all of the important decisions were still reviewed with him prior to any action.

Turnover in the hourly work force was severe in this period. One manager described the turnover problem as "a nightmare". The management team, however, remained stable. No one in management left during this period.

The manpower numbers for this period are presented below in Figure 12:

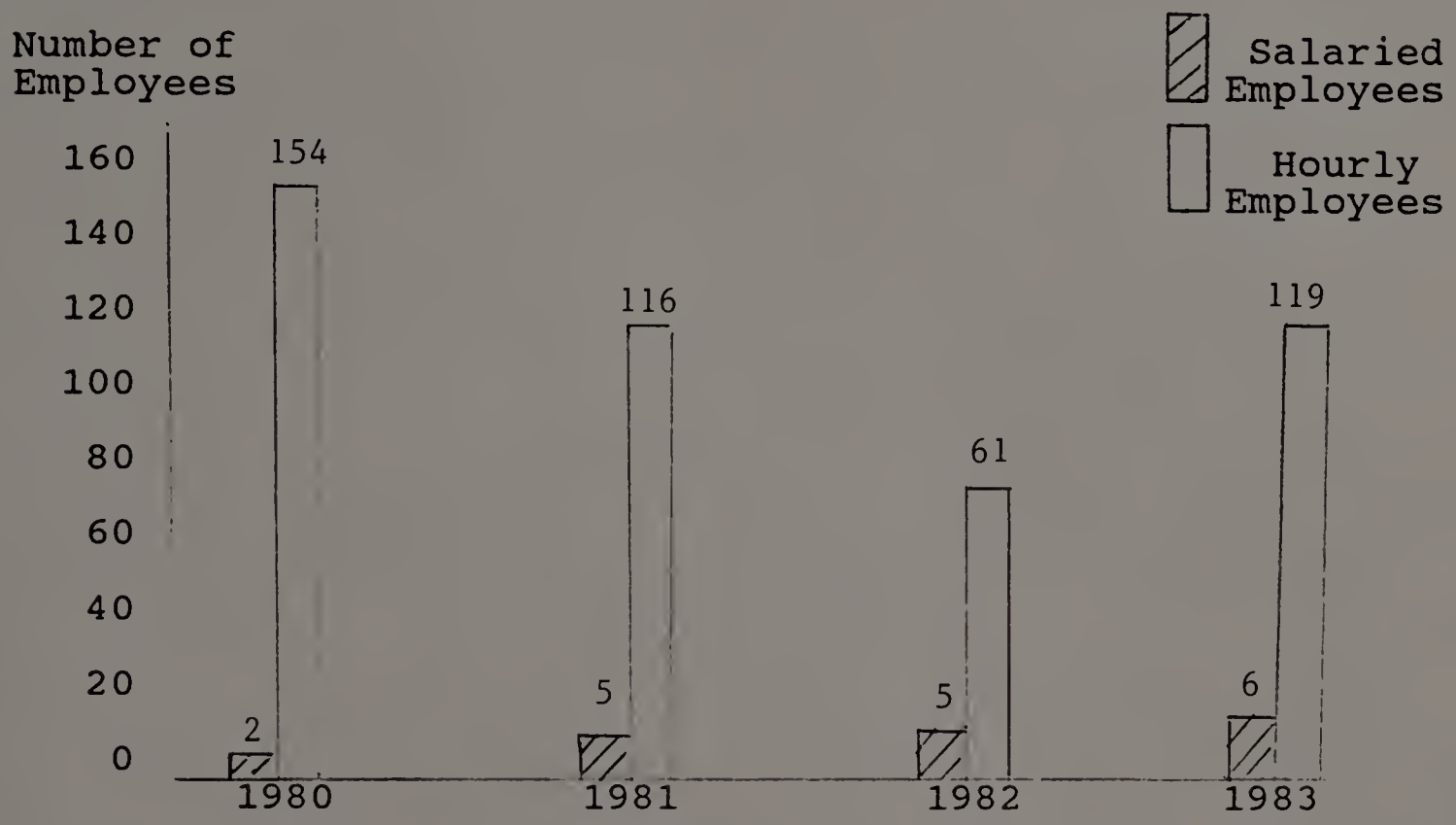

Figure 12

Period Three Manpower Numbers

NOTE: The statistics are inflated because turnover is included in each years numbers. The numbers were derived from JRW's W2 forms.

Organizational Processes

The company started to formalize its operation during this period. A tracking system was developed to allow the company to monitor its production.

Bad parts were recorded and production was monitored so as to determine supervisory bonuses. Paperwork flow increased in the office and in shipping. Administration was defined in this period.

An Apple computer was purchased and used to develop production reports. For the first time the company had a vehicle it could use to review the numbers.

The formalization process resulted in more written communication. Verbal communication, however, was still the norm.

Richard Pentland tried to get his management people involved in the decision making process during this period. He started to listen to suggestions from David Pentland and Kenneth Flaherty. However, he still retained the final say. This caused conflict between Richard and David. Mr. Pentland delegated to David but if the job was not done to his satisfaction, David heard about it. Several organizational members claimed that blow ups between Mr. Pentland and David got worse as they had to work more closely with each other in this period.

Promotions, mentioned in the previous People component, were granted because of mechanical ability. That was the norm in this period.

The period closed with the managers receiving more communication about the company and its operation. Hourly employees are still only communicated with on a need-to-know basis.

Emergent Network

Cliques or groups formed to influence business decisions or because of a mutual interest. No one group was dominant during this period. Employees continued to socialize together.

Kenneth Flaherty and David Pentland as well as other middle managers banded together to influence Richard Pentland on business decisions. Mr. Pentland would agree with them in some cases. However, Richard Pentland was still the final word.

Other middle managers got together to resolve business issues where they had a mutual interest. For instance, Kenneth Flaherty and Elaine McCourtney worked on the administrative matters associated with production. Elaine was the office manager and Kenneth managed the production area.

Both groups operated in a manner which fostered the development of the organization. No cliques or clusters were formed that impeded the company's operation.

Output

The growth strategy that was instituted at the beginning of this period paid off. Amtrol took off and JRW got most of its business. Production levels increased and the company went into overtime. The increased sales volume generated a better cash flow situation. The company was still, however, not making a profit.

Growth, however, did not come without its problems. The company could not make the Sloan valve parts to Sloan's satisfaction and JRW lost that business. Poor tool design seemed to be the chief reason for the bad parts. In general, though, the company was highly effective as a custom molder. The company satisfied a lot of customers with a minimum number of employees.

Organization members appeared to enjoy their work during this period. One person said "I hate to take the paycheck home at the end of the month, I have had such a good time".

Period Three closed with the company still not reaching its goal of making a profit. But, it was definitely on the right track.

Sales for the period are outlined below:

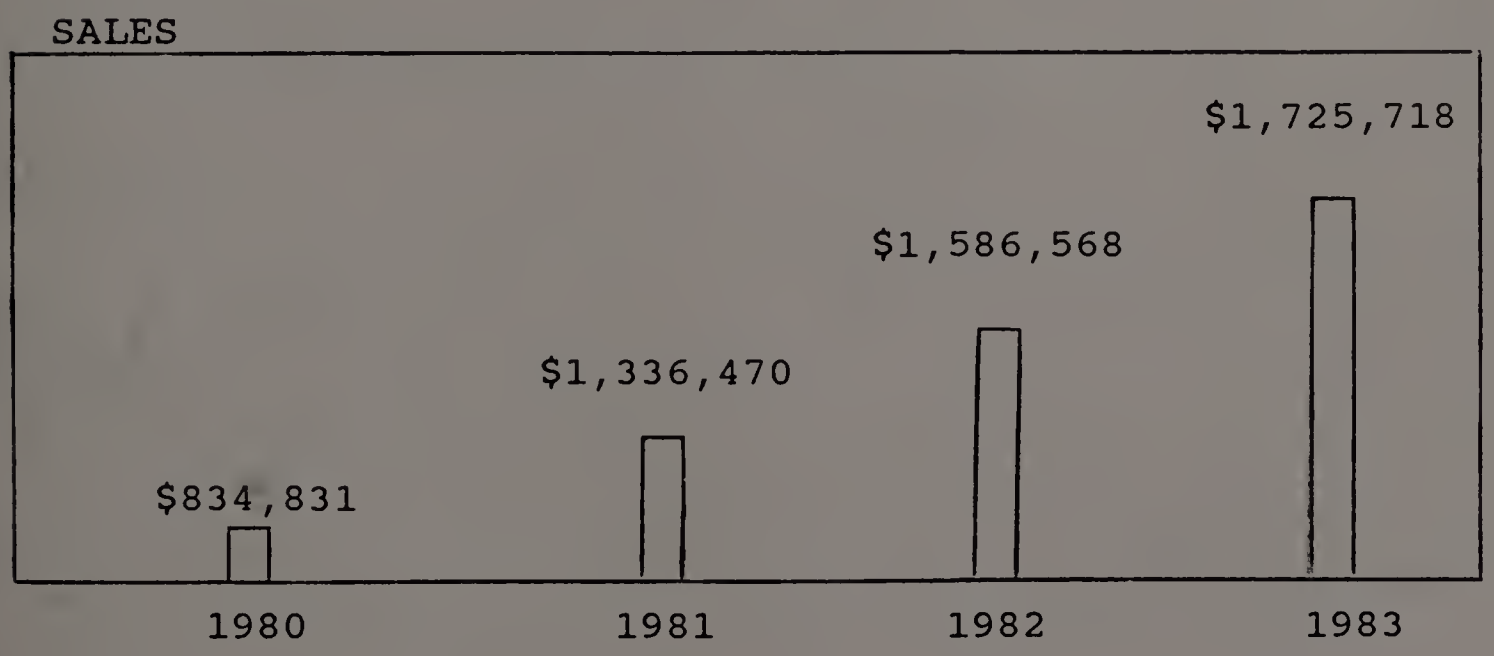

Figure 13

Sales Output for Period Three

Period Four: 1983 - 1986

Input: Environment and Resources

Environment The economy in the United States continued to improve during this period. That was evident because the facility that JRW resided in was full of tenants, a marked contrast to the previous periods.

JRW, in particular, was enjoying a surge in new business. One organizational member labeled the company's growth as "the best years we had". The company was now servicing three markets - automotive, building and environmental. The environmental market was new and consisted primarily of a customer called NPC. NPC was giving JRW $400,000 to $600,000 dollars worth of business every year. JRW manufactured the gaskets for NPC to connect drain pipes to manholes. The company continued to increase its business with Mattatuck and the Amtrol account expanded in this period. Mattatuck was a supplier to Ford, General Motors and Chrysler. Amtrol produced equipment used in the building industry to store well water.

There were, however, signs that the company's prosperity would not last much longer. Amtrol notified JRW that it intended to produce its own rubber parts. JRW agreed to help them set up their own molding operation because Amtrol told them not to worry as the transition would probably take four to five years.

A second blow occurred in 1986 when JRW learned that NPC had begun to make its own parts. That loss was particularly painful as NPC had not told Pentlands of its intention.

The company also found it increasingly hard to hire molding machine operators due to the shortage of workers in Massachusetts. JRW's location also affected its ability to attract workers. The company was located in a rural area instead of a city.

Resources To handle the increase in business during this time the company added four more machines: two Penejets and two Cincinnattis. JRW now had a total of nine injection molding machines. These purchases were possible because the company refinanced its loan with Worcester County Institute for Savings. JRW was also in the black for the first time in its history. The Pentlands were finally able to turn a profit.

The company earned a name for itself during this period when they began to take business away from their competitors - Delta, Accushnet and Jacobs Rubber.

Mission/Strategy/Objectives

The company developed its first formal mission statement during this period. JRW contracted with M.J. Stacey and Associates to develop that statement. Richard Pentland believed that he needed to get his management people involved in developing that statement because the

company had grown too large for one person to manage. The managers involved in developing the statement were: Mr. Pentland, President; Jean Pentland, Treasurer; David Pentland, Operations Manager; Eileen Crutchner, Quality Control Manager; Elaine McGourtney, Office Manager; James Pike, Materials Manager, and Edward O'Neil, Sales Manager.

The written mission statement focused on profit and customer service. That statement is displayed below:

MISSION STATEMENT

> Jefferson Rubber Works is a provider of quality rubber molding services to high volume consumers through planned production capabilities. Satisfying customer needs with required products and services offered by technically creative people will increase our market share. We intend to be profitable.

Profit, which had always been a key goal for the company, was now a shared goal. For the first time management had formally collaborated on the development of the company's future.

The main strategy which the company used to achieve its mission was to develop its sales.

There was an emphasis on growing the company's market share while increasing its efficiency.

Mr. Pentland took some of his managers and their wives to Georgia shortly after developing the mission statement. The purpose of that trip was to set strategic business goals that fit the mission statement and to get the top management team to socialize as a group. The managers who were invited were David Pentland, James Pike and Edward O'Neil. Richard and Jean Pentland were also part of the team that set the company's first strategic business goals. The meeting resulted in three strategic business goals.

STRATEGIC BUSINESS GOALS

FIVE YEAR PLAN

1.	Annual pre-tax profit	13%
2.	Annual growth of revenues	22%
3.	Effective tax rate	3.5%

Tasks

The company was maintaining its existing business in this period. Activity was concentrated until 1986 on developing the NPC account and handling the explosive growth of Amtrol and Mattatuck. JRW attempted to secure more business during this period. However, that business push was not very effective because the company had lost Robert Martin, their sales representative, during this period. His replacement was not hired until the middle of this period. Mr. Pentland hired a search firm to find a replacement for Robert Martin. Edward O'Neil was hired in August of 1984. Mr. O'Neil required a long

period of training because his background was not in injection molding. Thus, the company was without an effective sale effort for the majority of this period. The opposite was true in the manufacturing part of the company's operation.

The manufacturing operation almost doubled in size. According to the company records Richard Pentland bought four machines during this period, two used Penejets and two used Cincinnatti Milacrons in 1984.

The production operation became much more sophisticated as more machines were added to the company's existing equipment base. The technology also developed further in this period. For example, the company started bonding rubber to metal. A great deal of time was spent on improving the operation. Other improvements included the formal training of the molding operators in the plant and management training for the staff. The operators were given a written set of procedures and the managers as well as supervisors were trained in effective leadership skills.

Kenneth Flaherty and the supervisors designed the molding operator training procedures and the company hired M. J. Stacey and Associates to do leadership training.

The chain of command was still the primary method of distributed tasks. Mr. Pentland had the final say on all major decisions. However, Richard Pentland began to give his managers more freedom in the operation of their areas.

David Pentland and Kenneth Flaherty were basically running the plant side of the company's operation. One manager described Mr. Pentland's leadership style as "giving us a little more rein".

The company's main goal, throughout this period of greater production sophistication, was to produce and ship product as quickly as possible. To do that the company worked five or six days a week. Sometimes it worked seven days a week.

Prescribed Organizational Structure

During this period the authority was passed on to organizational members through a chain of command that was formed in the last period. The company now had a semi-formal structure. An executive of the company described that semi-formal structure this way: "We tried to make it as clear as we could without putting anything in writing."

Communication was still verbal. An effort was made to further define the structure in this period. Richard Pentland hired the George May Company, a management consulting firm, to develop job descriptions, an organizational chart and a budgeting system. The May company completed their work but none of their suggestions were adopted by management.

Richard Pentland continued to set the priorities except in the production area where Kenneth Flaherty and David Pentland were taking on more responsibility and

authority. They supervised the manufacturing operation, which included production and maintenance. Mr. Pentland still, however, controlled the major activities as he was unsure about how much he could delegate to these young and inexperienced managers. One manager described Richard Pentland's hesitancy to delegate as "he does not feel right unless he has his finger on it."

The structure was stable during this period. The positions in that structure were now in place and little change was made in the company structure. There were, however, adjustments as the company continued to move from a role type of structure to a departmental structure. A maintenance department was formed and the office was now a department unto itself. The finishing department expanded and was moved downstairs. The company rented another part of the Holden complex.

Towards the end of this period the finishing department grew into a full fledged Quality Control Department. The change was necessary as the company had more production to control at this point.

People

Several new people were added during this period. Chip Mellor was hired to run the Maintenance Department, and Jeffrey Dubiel was hired as a salesman. Jeffrey was responsible for the mid-Atlantic area of the United States. Edward O'Neil was hired as the company's first

Sales Manager. Mr. O'Neil came from Norton company where he performed a similar function.

Robert Martin was the only key member of the organization to leave in this period. Mr. Martin was let go because he and Mr. Pentland differed in their approach to sales strategy. Richard Pentland felt that Mr. Martin was not bringing in enough new business.

The organization now had several key management players. Richard Pentland and Jean Pentland ran the company. Richard was the President and Jean, the company Treasurer. In the shop David Pentland and Kenneth Flaherty had emerged as leaders. David was now in charge of Production, Engineering and Maintenance.

In 1985 Dave was promoted to Operations Manager. Ken supervised production and maintenance. Eileen Crutcher became the Quality Control Manager and Elaine McGourtney was in charge of the office. Elaine's promotion allowed Jean Pentland to do more of the financial work. James Pike became the Materials Manager and handled all customer service problems. He was also involved in quoting prices to perspective customers.

Richard Pentland began in this period to rely more and more on these young people. He delegated more as these young people began to take on more responsibility. Mr. Pentland, however, continued to want to know about company

decisions even if he allowed them to make them. The company was trying, at this point, to match people to a job that corresponded with their skills.

In general, this was a period where the company was described as taking better care of its employees. M.J. Stacey and Associates had been engaged to aid the company with its turnover problems and that assignment was seen as a positive move by all levels of employees. The company also contracted with this consulting firm to train their supervisors in leadership skills.

The manpower numbers for this period are presented below in Figure 14:

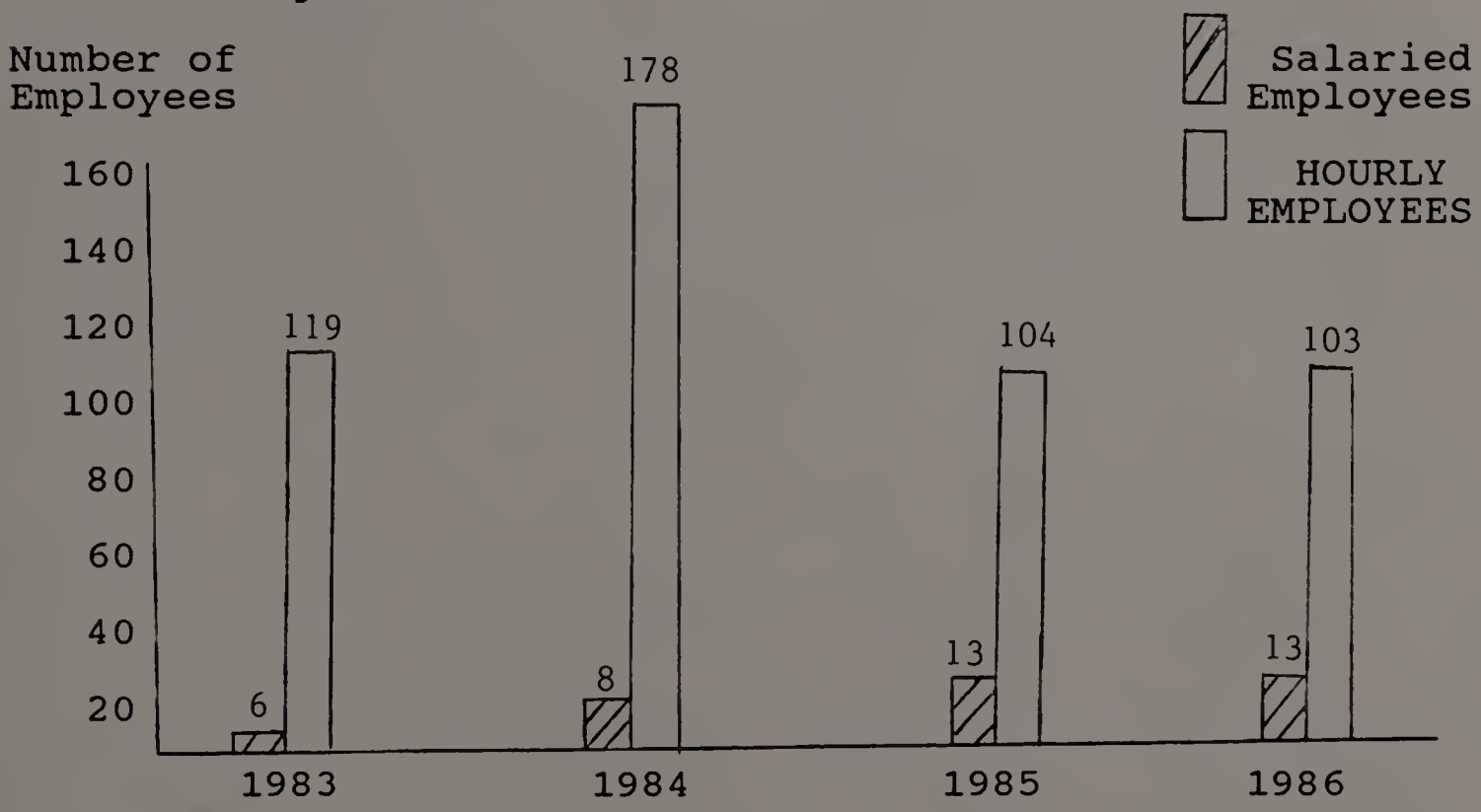

Figure 14

Period Four Manpower Numbers

NOTE: The statistics are inflated because turnover is included in each years numbers. The numbers were derived from JRW's W2 forms.

Organizational Processes

The company attempted to increase the sophistication of its management systems during this period. JRW contracted, as previously noted, with George May Company to develop a budget system. That was one of the company's first efforts at formalizing the budgeting process. All the managers were put on an expense budget. The effort brought financial information to management's attention.

Technical standards were also set in this period. The company now set standards for quoting prices to customers and formalized the customer complaint system.

Even the communication system became more formalized. A manager described the company's communication style as "memos were written and reports were given". Communication was generally more open in this period. Two way communication existed between management and the Pentland family. Even the machine operators began to receive information about the company in the form of a newsletter. The company also shared financial information, when asked, with employees.

The company expanded its selection procedure during this period by recruiting management personnel from outside the company. Several people were hired in this period. Edward O'Neil was hired as the Sales Manager and Jeffrey Dubiel as their mid-Atlantic salesman. The

company, however, continued to promote from within in most cases. There were four management promotions from 1983 to 1986.

Management set up formal meetings to determine how the company could get more customers and improve quality. More input was sought by top management. A member of management described the opening of communication with management as "a little more of a two-way communication" approach.

Richard Pentland, however, continued to find it difficult to delegate. In some cases this caused a considerable amount of conflict. Richard and David Pentland continued to argue over how the operation should be run. That situation was elaborated on by a member of management when that member said:

> I think some of the conflicts would arise from Mr. Pentland handing over some decision making and responsibility to David or another member of management. Most of them would arise when Mr. Pentland, being in the plant, would see something he did not like, and if he did not like it, instead of dealing with it in a responsible sane fashion he would have a fit and when Richard had a fit David had a fit and then you had two screaming lunatics running around the plant.

Emergent Networks

The managers and supervisors continue to socialize together in their off hours. The production group even played softball. That group includes, Kenneth Flaherty, Eileen Crutcher, Jeffrey Hardy and Brian Brown.

Two cliques begin to form in this period. The office group, James Pike, Edward O'Neil and David Pentland, and the production group, Kenneth Flaherty, Eileen Crutcher and the supervisors. Both groups cooperated to achieve the company's goals.

Neither of the cliques dominated the business as Dick Pentland continued to manage these groups.

Output

In this period the company was profitable for the first time. One member of the organization claimed, "From 1983 to 1986, I think the company was making a profit of $100,000 to $200,000 a year". Another member described this period as "the most successful three years the company ever had".

JRW, as a company, learned a lot during this period. The company was much better at molding rubber parts. One member claimed that with the personnel it had "the company operated really effectively".

The period, in general, was a time when the employees of JRW were satisfied. The owners were making money and the employees were being treated better than in prior periods. Everyone felt good about the company.

The sales figures for that period are graphed below:

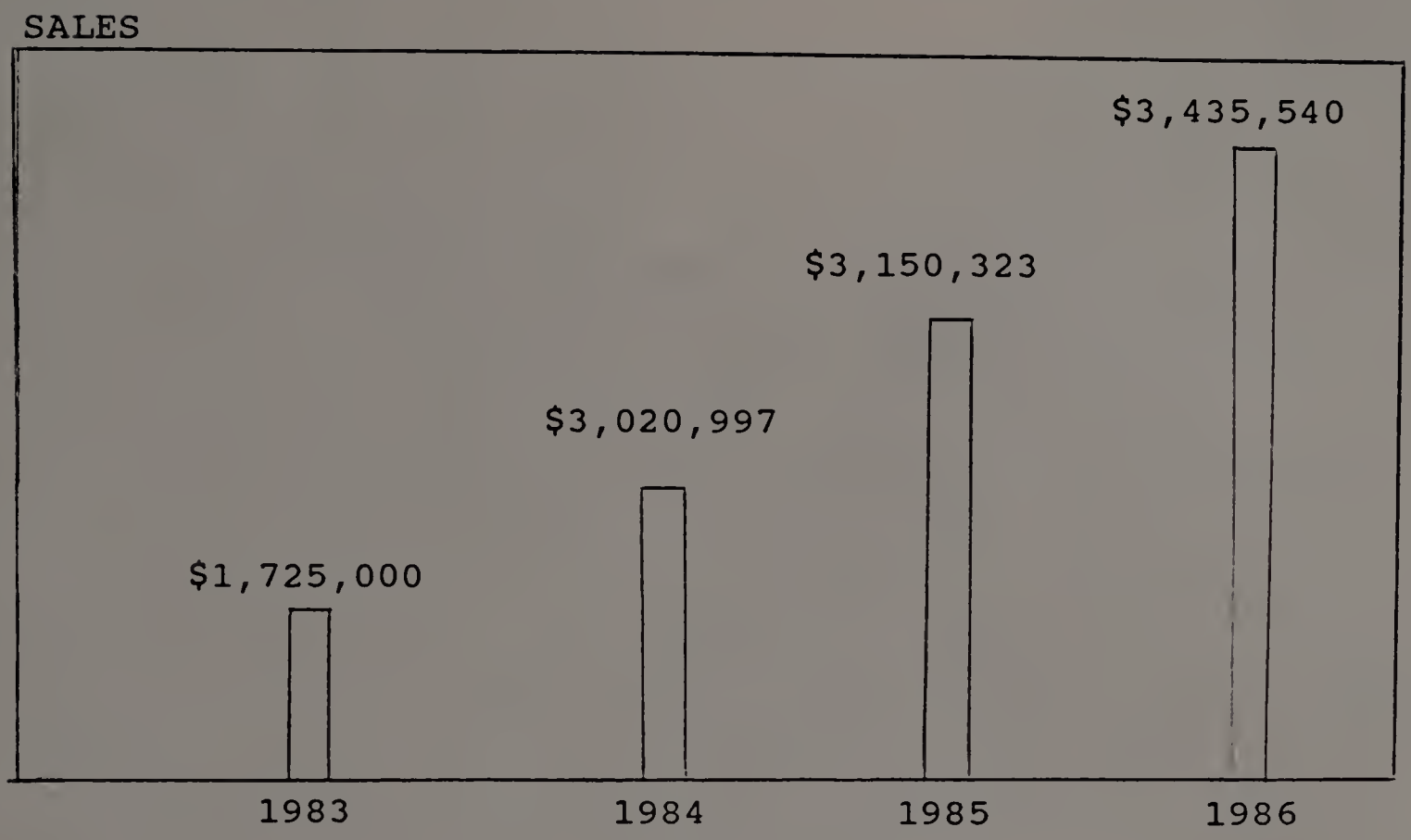

Figure 15

Sales Output for Period Four

Period Five: 1986 - 1988/89

Input: Environment and Resources

Environment The economy was booming during this period of time. There was a slight increase in the gross national product, inflation was low and unemployment declined in the Commonwealth of Massachusetts. The company was now competing for employees with an emerging service sector of the economy that paid higher wages than JRW paid its molding operators. The low unemployment and emerging service sector contributed to a labor shortage which effected the company's ability to attract workers.

The facility which JRW rented was purchased by a development firm, Scola Corporation, which notified the company that it would have to move because it intended to build condominiums. James Pike was assigned the task of finding a new facility. After a great deal of investigation, the Pentland family decided to purchase land at the airport in Worcester and build a new facility. A family member described the rationale for building as "we looked at existing buildings and what it would cost to modify the buildings to suit our needs and it just didn't make sense, so we decided it was more economical to build".

Other external environmental factors were also impacting on the organization during this period. One factor was the gradual decline of the company's customer base. Amtrol further reduced its committments after learning it could make its own parts, particularly in the fourth quarter of 1988. All Amtrol sales stopped in 1989.

In 1986 JRW lost the NPC account when NPC purchased molding equipment from the Desma Corporation and began to mold its own parts. The NPC loss was a shock to JRW because NPC had not previously informed JRW of its intentions. JRW decided to mold its own rubber sewer connector parts in response to NPC's loss. The product was the same as JRW had made for NPC except that it was changed sufficiently to avoid legal problems with NPC. The strategy did not work as NPC sued JRW.

Epco was JRW's first significant venture into making a proprietory product. Richard Pentland formed Epco as a separate company. A separate sales staff was hired and separate financial records were kept. From March 1988 to March 1989 Epco sales increased by $390,471.

The NPC account was regained in August of 1989 when Richard Pentland worked out a deal with the owner of NPC - Mr. Gundi. A member of the Pentland family believed that NPC returned "because JRW was hurting them in the marketplace". JRW agreed to stop marketing the Epco label if NPC would give them their sewer connector business and several machines.

In return, NPC got JRW's customers and its product line. The agreement worked for approximately two months. Gundi called Mr. Pentland in October of 1989 and claimed he could not pay the price that they agreed to. While Gundi claimed that Epco was not making any money, JRW books showed a different picture.

JRW did obtain additional business in this period, but sales were down. The company received business from an Amtrol competitor, A.O. Smith and three or four Black and Decker jobs. The Mattatuck account also expanded in this period. These increased sales were counteracted by high research and development costs. The profit picture therefore was less than when Amtrol, an existing customer, was giving the company all their business.

Customers during this period asked for more data on the company's compounds and processes. The Quality Control Department expanded in response to this external pressure.

Resources The company was forced to purchase more quality control equipment to meet the customers' demands for this type of data. Three pieces of equipment were purchased in 1988: an SPC Box, a comparitor and a Tinsel testing machine. The company also added three molding machines in this period. Two Desma's were received as part of the NPC deal and the company purchases an 800 ton hydraulic press. The Desma machines were described by an organizational member as "a premier piece of molding equipment".

JRW's financial picture worsened in the first quarter of 1989. Until that point the company had been making money, with 1988 having been the best year in the company's history in terms of sales. The company also offered to pay down its B.B. Rubber account in 1988. One member of the organization described the company's financial status during the earlier part of this period as "still cash rich".

Mission/Strategy/Objectives

The strategy changed several times during this period. The first strategy was to continue to grow the business. Mr. Pentland wanted to be a major player in

the injection molding business. That strategy was changed when the company lost NPC and Amtrol. The second strategy was to replace the lost NPC and Amtrol business. One manager described that effort as "trying to break into some new markets to gain new customers to replace the two-and-a-half to three million worth of business lost". The company's financial condition continued to deteriorate to the point where survival became the main goal. It became very cost conscious in order to renew itself. The company now had a double mission; to get more sales while reducing costs.

The goals during this period were set by the department heads under the direction of Richard Pentland. Mr. Pentland gave the managers two guidelines: create new business and reduce costs.

Tasks

Middle and upper management personnel were now having more input into the activities that were performed in the organization. David Pentland made more decisions without checking with Richard Pentland. Their financial consultant provided Mr. Pentland more advice, and Robert Pike, the Vice President of Sales had more say in the management part of the business.

Robert Pike, Mr. Pentland's brother-in-law, was hired to develop the Jefferson Rubber Division. The increased freedom permeated down into the lower level management positions. The supervisors began to handle routine matters without checking with their boss.

The company worked on replacing lost business and increasing its efficiency. JRW pursued the automotive market while attempting to build Epco. Epco took a lot of the company's time. Edward O'Neil and Richard Pentland tried to develop that business but Mr. O'Neil found he could not sell for both businesses as the work load was too much. Richard Pentland contracted a manufacturer's representative (Conac) to sell Epco products. When that firm failed to generate a significant amount of sales, Mr. Pentland decided to rehire Robert Martin as a consultant. Mr. Martin's job was to determine if Epco could be a viable business. Robert researched the market and told Mr. Pentland that Epco would work. Mr. Pentland hired Mr. Martin to head up the Epco Division sales effort in February of 1988. Epco developed and became established in the marketplace. In 1989 JRW reached an agreement with NPC, and, as part of that agreement, Epco was stopped.

A lot of prototype work was done in this period to develop sales. New jobs were constantly being run in the machines meaning frequent changes of the molds, reducing the company's production efficiency.

Top management was simultaneously working on improving the efficiency of the organization. The company concentrated on increasing its quality, reducing its costs and adding more machinery.

Mr. Pentland believed that the key to making a quality product was to make it right the first time. The company increased its ability to make a quality product by purchasing more quality control equipment. In addition JRW hired Ernest Wine as a lab technician, and he established the procedures and techniques for inspection and testing. Ernest and Eileen Crutchner were trained in statistical process control techniques. The other managers were trained later.

The company added an 800-ton hydraulic press in 1989. The hydratech produced larger parts than any of the company's other injection molding machines. Since a much larger part could be made in that machine, the company became more competitive.

The company also increased the sophistication of its technology during this period. The tool making machines were more state of the art. JRW experimented during that time. The company set up dryers to dry the plastic material, i.e. the 3M job. That process was State of the art injection molding.

In addition, JRW engaged in a cost-cutting operation because of the reduced production, and increased costs. The cost increase was primarily associated with debt burden and overhead. One member felt that the company gave out too much overtime during that period. That member believed that the company could have saved the

costs associated with the overtime if it had planned it production better. The employees pay was cut and the plant was shut down for a short period of time. The company cut back to two shifts. JRW saved payroll costs and reduced operating expenses by eliminating the third shift.

Mr. Pentland bought the land in Worcester and built the building because he believed these moves were in his long-term interest. He was fifty-four years old and beginning to think about retiring. The landlord was also evicting the Pentlands from the Holden facility. As Mr. Pentland had a contract, the landlord had to give him some compensation.

JRW moved in October of 1988. Their new facility however, was not ready at that time, causing disruption, as the management had to work out of trailers and the molding operators had to work alongside the contractors. By Christmas the company had moved into the building. JRW did not have any customer product delivery problems as it had planned for the move.

The production machines, however, were not up and running on schedule as they were one week late. The company had not anticipated the amount of disruption the move would cause and how it would effect the efficiency. People were off balance for a couple of months.

Prescribed Organizational Structure

The structure of the corporation remained relatively stable during this period. The departments that formed in the last period were still in operation. However, responsibilities changed as new people were added to the organization and others left the company. Mr. Robert Pike joined the company and was given responsibility for all its sales efforts. David Pentland's role continued to expand with his promotion to Vice President of Operations. The Maintenance Department was transferred from Kenneth Flaherty to David. In April of 1989 Paul Braney joined the company as a part-time Chief Financial Officer. Mr. Braney had previously consulted with the company on financial matters. He actually worked a couple of days a week for the company at this time. Jean Pentland continued to work in the office and Paul Degrace joined the company as its first Controller. Eileen Crutcher's job mushroomed as she took over Purchasing and Materials management. These new duties were in addition to her role as Manager of Quality Control. Her Finishing Department responsibilities were transferred to Kenneth Flaherty, the Production Manager.

A major restructuring effort was the diversification of the company into two separate companies, JRW and Epco. JRW made custom molded products and Epco sold a proprietory product.

These decisions were made by Mr. Pentland who continued to determine the organizational structure. An unsuccessful effort was made in this period to formally structure the organization. Top management and middle management met at the Sheraton in Worcester to develop an organizational chart depicted in Figure 16 on page 135. One organizational member described that event as "we had a meeting over at the Sheraton and we tried to get some sort of an organizational chart". The organizational chart was not implemented in this period.

The company was clearly organized into small departments by the end of this period.

People

This period was described by one company member as a "period of disenchantment". Several people left the company in this period. James Pike's departure was a severe blow because of his importance to the organization. He had been handling the purchasing, materials and customer service. Edward O'Neil left and that dampened sales efforts as he was the Manager of Sales.

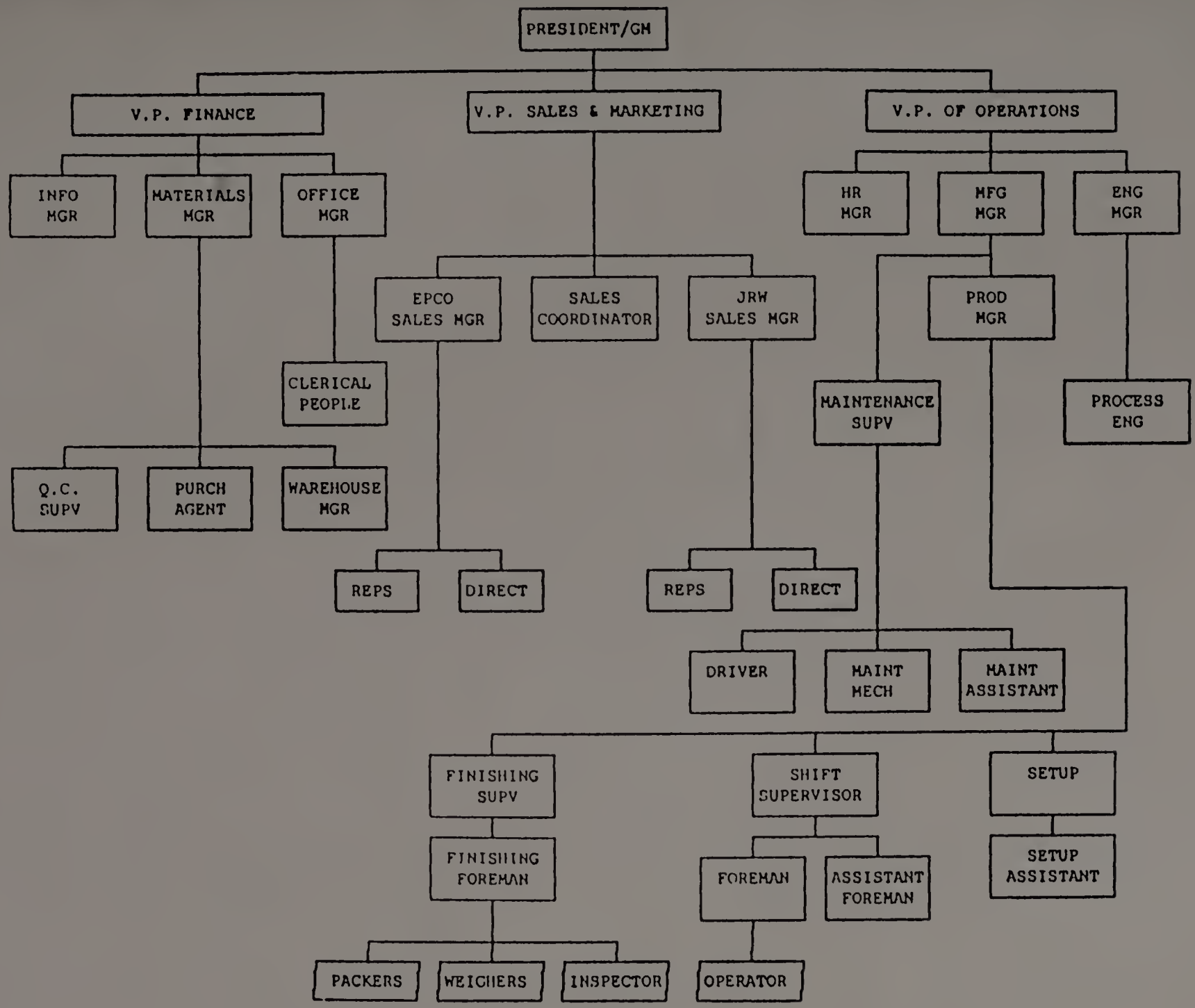

Figure 16

First JRW Organizational Chart

The manufacturing group was hurt when Chip Mellor, supervisor of maintenance, left. Two maintenance mechanics also left, according to one organization member, at that time - Joseph Gebo and Craig Lapointe. That organization member also felt that the new crew was not as familiar with the machines as Chip and his mechanics. Chip was replaced by Charles Fregault who was hired from outside the company. Bruce Marshall joined the company as an inside sales representative and left after a short period of time. Bruce also handled customer service. The company's mid-Atlantic sales representative, Jeffrey Diebiel, also left.

Several people joined the organization towards the end of this period. Mr. Pentland re-hired Robert Martin during this period. Mr. Martin, as mentioned in a previous compo-
nent, was hired to spearhead the sales efforts for the Epco company. Mr. Pike and Johnathan Pike joined the company in the sales area. Johnathan Pike was hired as a salesman and Robert Pike assumed the role of Vice President of Sales. Both employees were relatives of Mr. Pentland. David Pentland disagreed with his father, Richard Pentland, with regard to hiring more family members. The disagreement was resolved in discussions between Richard Pentland, Michael Stacey, of M.J. Stacey and Associates, and David Pentland. David Pentland agreed

to give Mr. Pike and Johnathan Pike a chance. One of Robert Pike's first tasks was to hire more independent sales representatives.

The company started to develop its quality control further in this period. Ernest Wine, hired as a Chief Lab Technician, set up the company's Quality Control procedures and inspection techniques. The Accounting function was also enlarged at this time. Paul Braney assumed control of all financial operations and Eric Westcott was hired as a full time computer programmer.

A Process Engineering position was created in this period. Jeffrey Hardy, a supervisor, was promoted into that position, becoming responsible for the research and development work associated with new jobs. That role was important as the company was in the process of renewing itself.

David Pentland continued to grow as a manager and virtually ran the manufacturing operation. He also assumed more top management responsibilities. One of those tasks was to develop a cost reduction plan. David, Richard and Paul Braney developed that plan together.

The company was still being run by Mr. Pentland. In the beginning of this period other managers made more decisions than in prior periods and molding operators got more involved in the operation. A suggestion box was

installed for their input. The set-up person also started to deal more with the tool shops on repairs. A set-up person sets up the molds so the molding operators could run their machines. The leadership style changed after the company started to lose money. Richard Pentland again took a more directive approach.

Morale dropped after the summer layoff and pay reductions occurred in the latter part of this period. The leadership boundaries also blurred when the company moved into a larger building in Worcester. One organizational member said, "it seemed when the place got bigger, the different leaders seemed to come together more and go into other departments, not just their own separate department".

That situation resolved itself when the reporting relationships were changed after the move.

Period Five closed with the management style becoming more conservative. That type of management was necessary as the company needed to be more cost conscious in a declining sales environment. In one organizational member's words:

> "You could see they weren't like throwing their money around as much because before you could punch out at 3 past and you would get paid for three minutes. But now you could punch out at three past and they would say that you punched out at your scheduled time. It's like they were being more money conscious."

The manpower numbers for this period are presented below in Figure 17:

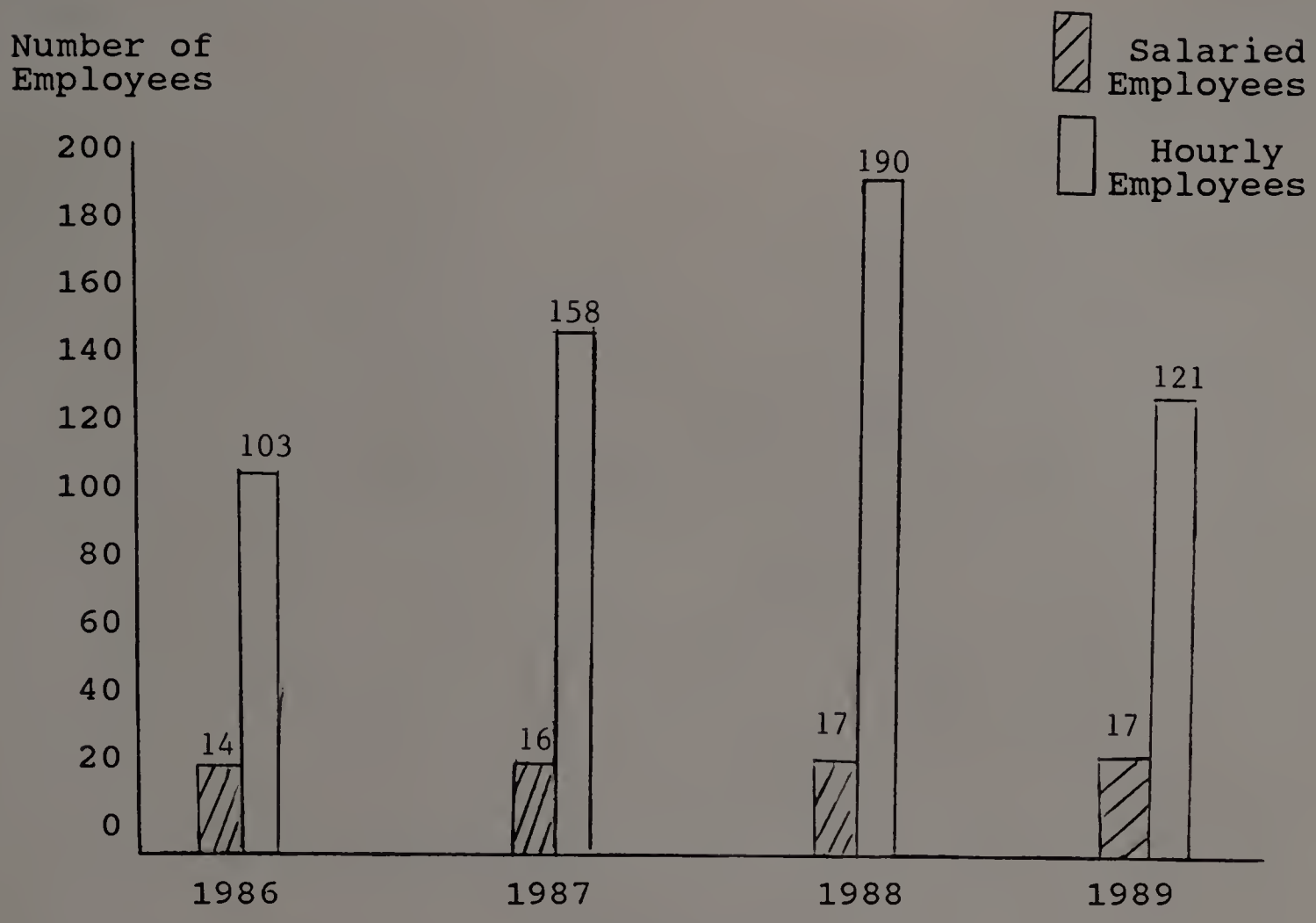

Figure 17

Period Five Manpower Numbers

NOTE: The statistics are inflated because turnover is included in each years numbers. The numbers were derived from JRW's W2 forms.

Organizational Processes

JRW had increased in sophistication as an organization during this and the previous two periods. The processes of communication, decision making and conflict had changed in response to the increasing sophistication of the organization.

The ability to generate information increased during this period. The company now had two computers. A

basic Apple computer and a much more sophisticated Wang machine added in 1988. The computers were used for sales administration, scheduling, and word processing. The production area used the Wang to record production. The increased flow of information necessitated a more formal type of communication. JRW wrote more memos, sales forecasts and quarterly updates. The company shared its information with different levels of management in the beginning of this period. Toward the end of this period the company regressed to a need-to-know norm of communication with its employees. Communication gaps also occurred as the physical distance between people increased in the new building.

In the early and middle part of this period, the decision making had been more participative. David Pentland had taken over all of manufacturing and was operating in a more autonomous manner. The decision making became more autocratic towards the end of this period. Mr. Pentland remained as the person in charge of the operation during the entire period.

The style of Mr. Pentland caused problems with some of his managers as they now wanted more authority. Richard and David would argue over organizational matters. David disagreed with Mr. Pentland on the hiring of Robert Pike.

David did not think the company needed another family member in top management. There was also a question about Mr. Pike's background. He had no rubber industry experience which was a requirement of this job. Mr. Pentland felt that he did not need the rubber experience and was well qualified for the Vice President of Sales position. David and Mr. Pentland asked Michael Stacey, of M.J. Stacey and Associates to arbitrate the matter. After some discussion David agreed to give Mr. Pike the job.

Conflicts between Mr. Pentland and David stopped after David went to a Senior Managers Conference on Interpersonal Competence at the National Training Laboratory in Colorado. David modified his conflict style and the arguments decreased in number.

Other conflicts erupted during this period. The first conflict occurred between Scola Corporation and the Pentlands. Scola wanted JRW out of its building in order to build condominiums. When JRW was not moving as fast as Scola wanted, it turned off the heat and restricted the parking. JRW finally agreed to move if it got compensation for moving early and Scola agreed. The company moved into its new building in 1988.

Conflicts between the company and its contractors occurred almost immediately. The contractors were not finished with the new building and the company had to

operate around the contractors while they finished the building. That caused problems between the contractors and JRW employees.

During this period the company became more sophisticated in its management systems. A cost reduction plan was put in place that reduced labor costs by 25% and material costs by 30%.

The company increased its quality control in addition to more stringent cost control. Parts were checked twice to make certain the customer received the proper product.

The period closed with the employees questioning the promotion policy. For the first time, employees believed that family members or relatives would get new openings.

Emergent Network

The two cliques which were established in the last period continued to operate in this period. The office group was one clique and the production people, the other. The production clique broke into four smaller cliques. These cliques were Finishing, Quality Control, Production and Maintenance. None of the major cliques influenced the direction of the business. The formal structure was still the primary way to influence change in the company.

Output

The company was profitable until the later part of this period. In 1989 the company lost Amtrol. By the end of 1989 the company had a $713,036 dollar deficit.

Several organizational members claimed that the loss was exacerbated by the increased costs associated with the new building which were higher than in the Holden facility. The cost of space in the company's Holden, Massachusetts facility was $2.25 per square foot. In Worcester the cost rose to $10.00 a square foot. Top management, however, believed that the loss was primarily the result of losing Amtrol and because of the company's debt burden.

The company changed its goals in an attempt to stem the decline. An aggressive sales effort was made as the company attempted to broaden its customer base. However, customers did not come on board as quickly as the company needed them. Broadening the customer base also led to a decrease in efficiency.

To combat the drop in sales the company instituted a belt tightening program. The company reduced its work week from five to four days and cut some individuals pay.

Employees resented the pay cuts believing the company did not need to spend the money it did in the new building.

Organization members questioned the need for a parquet floor in the new building. Some members even questioned the competence of top management. The company's financial situation stimulated several organizational members to look for new jobs.

Period Five sales figures are presented below:

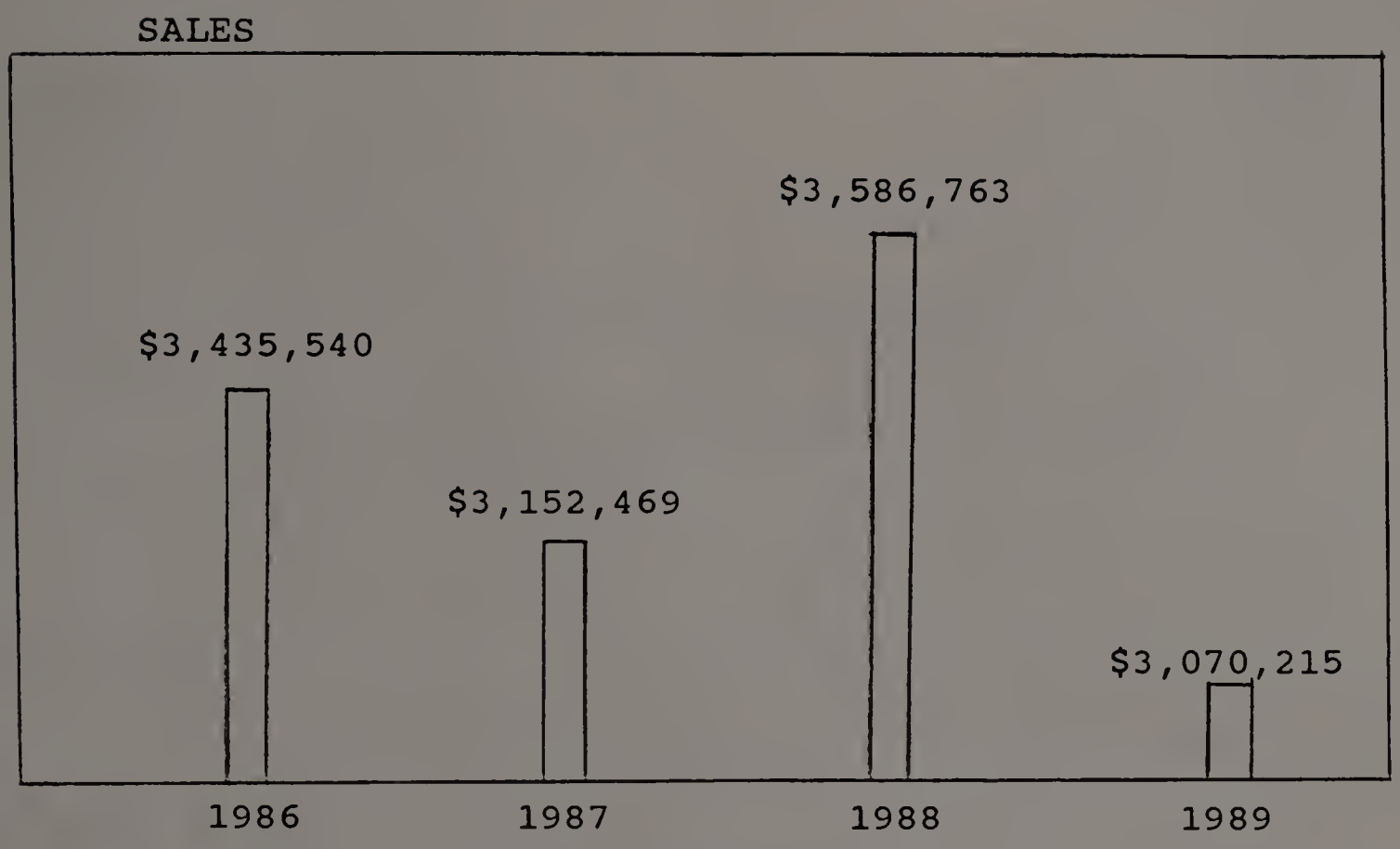

Figure 18

Sales Output for Period Five

Period Six: The Future

Input Environment and Resources

Environment Several organizational members said they were concerned about the future of JRW at this time. The economy appeared to be declining in Massachusetts and the United States might slip into a recession. That scenario would be critical for JRW as it depends heavily upon its customers who are recession sensitive. The other possible scenario was that the economy would stabilize and JRW would survive.

The company had to locate new customers and expand its business with existing customers. JRW had already received more business from Mattatuck and had contracted with several new customers. Two new automotive customers were ACCO and Handy Harmon. The company had contacted other potential customers and hoped to receive contracts from Harvard Industries, Black Stone and Honeywell.

JRW must attempt to continue the development of its Quality Control Department as its customers required more testing and monitoring of its production.

Resources JRW was capable of running a wide range of injection molding material with its current machines. Those machines could make larger rubber parts. While the largest part the company could mold in the past was 32 by 29, the new hydraulic machine could mold a part 48 by 48.

Another important aspect of the company was its new building, which was likely to impress more potential customers. Its contemporary decor and modern structure were eye-appealing. Last but not least were the company's employees, which had become an experienced work force who, for the most part, remained loyal. Some of the management personnel have fifteen years of experience. Rent in the new building is substantial in comparison to the previous location. That overhead could cause JRW problems in the future since the financial resources of the company are

limited. It is unlikely the bank would loan the company the funds it needs to continue operation if JRW could not get into the black.

Mission/Strategy/Objectives

The company had both a long range goal and a short range goal. The long range was to grow the business to a ten million dollar company. The company strategy appeared to be to diversify to meet that goal. The short range goal was to survive. The short- and long-range survival goals would not be met unless the operation became more efficient. The company had to cut costs while aggressively pursuing sales. JRW had to experiment with the latest technology while it controlled costs. The solution was to find a niche product as it did with Amtrol.

Tasks

If it was to survive its current financial crises and grow to a ten million dollar operation the company had need to broaden its sales base. At the same time JRW had to continue to satisfy its existing customers by increasing quality.

The company needed to simultaneously revamp the operation, including reducing costs, improving efficiency and preparing employees for the future. Cost increases had to be held until the last minute. One organizational

member described the attitude that will be necessary in this cost conscious environment this way:

> People will have to realize what a cost-conscious operation is really about. Dollars come in the door in the form of rubber compound. Then the company does something to it by adding value and sends the product out the door at a higher rate than the cost of the material.

The employees had to recognize what it means to operate like a cost conscious operation if the company was to survive.

In addition, the company will need to increase the efficiency of its operation. Machine down time has to be decreased and the plant needed to be modernized.

All of these activities would not occur if employees were not trained to meet these future challenges. Additionally, the company needs to prepare to replace both Richard Pentland and Robert Pike sometime in the next ten years.

Prescribed Organizational Structure

The structure would not have to change significantly for the company to survive and grow. The Engineering Department was the only department that needed to be developed. That will be elaborated on in the People component.

A better definition of who does what within the structure might improve efficiency. One organizational member described the current structure as "confusing and inefficient".

The new structure would not work if the departments and the people in those departments did not cooperate in achieving the company's goals. One organizational member raised that concern by claiming that the company needed to get its "people to operate towards a common goal". JRW will have to operate as a team if it is to survive.

People

The general concensus of mid-management and lower level employees was that the people currently employed by JRW were adequate for future operations. Top management viewed the situation in a slightly different manner, believing that the company needed to hire a heavy duty Chief Engineer, someone who knew rubber and plastics to develop the Engineering function. Top and middle management also felt it needed someone to organize the office. One top manager put that feeling in perspective claiming that "we are not that technically creative".

As the company grows, new people will be needed. That need could cause a rift between the lower level employees and top management. The difference in perspectives needed to be resolved before more people were hired and the gap between these groups widens. Employees might go along with more outside hires if the need is explained to them. The decision, however, remains with top management.

Organizational members also felt the company needed to move towards a more participative type of leadership. The

hiring dilema would be one situation where the company could use a participative style to resolve a problem. It was generally felt that the company could no longer be managed in an autocratic manner. Top management would have to delegate more if the company was to survive and grow into the next decade.

Organizational Processes

Several concerns were identified in this area. Three primary concerns being that the company needed to: communicate better to its employees, develop a statistical process control program at the operator level, and plan for the eventual replacement of Richard Pentland and Robert Pike. The general feeling by all levels of employees was that the company needed to improve its communication. One member went as far as to say that communication was the company's "biggest shortcoming". Other members felt the company needed to let people know what was happening in the company. Another person felt there should be more written communication. The company will need to address that area if it is going to motivate its people. The motivation of its work force is a top management concern.

The quality of the products of the company was another top management concern. Quality products were seen as a critical segment in the survival and development of the company. One company member felt that the organization

should train all levels of employees, including the molding machine operators, in a process called statistical process control. That person went so far as to claim "the operator will be the one that will be monitoring quality. It is going to be very important for them to keep an eye on quality". The importance of quality to the company's future was underscored by that statement.

The third company concern was the replacement of Richard Pentland and Robert Pike. Both are in their late fifties and would probably retire in the next ten years. The company would have to plan for this eventual reality.

A top management team would have to be built to replace them. That team could either be developed from within or hired from outside the company. In either case the company would need to plan for this transfer of leadership. One person stated that concern well by claiming that "decision making is going to have to be shifted".

An ongoing concern was the management of conflict between family members. That type of problem is inherent in this form of organization. One organizational member captured that phenomena well by stating that "conflict is somewhat of a problem in a family business, and it always will be".

Emergent Network

The employees may band together and help the company if they know what the future holds for them. The company needed to communicate what it wanted to do and how it

envisioned that future. An effort was needed to involve people at every level of the company. The employees were critical to the survival and development of the company.

The formal structure should continue to be the vehicle for change. No one informal group appeared to be strong enough or inclined to challenge the official chain of command.

Output

JRW's future output was hard to determine at this point. The future was going to be a struggle due to the loss of Amtrol and NPC. However, the talents of JRW's personnel are still in place at this time.

CHAPTER V

ANALYSIS OF FINDINGS

Introduction

Two models were used to analyze the findings presented in Chapter Four. The findings were organized by themes and patterns in the company's history as recollected by the research subjects. Both models were then used as analytical tools in understanding that history.

The first model employed was developed by Cameron and Whetten (1983). The findings were analyzed according to the four stages of this model: 1) Creativity and Entrepreneurship, 2) Collectivity, 3) Formalization and Control, and 4) Elaboration of Structure. Six propositions, espoused by Cameron and Whetten (1983), were examined in this section. Those propositions are:

Proposition 1 - The Cameron and Whetten model is applicable in understanding the life cycle of a family-run entrepreneurial organization.

Proposition 2 - Organizations evolve through four progressive stages of development.

Proposition 3 - Problems in lower developmental stages have to be resolved before an organization can evolve into a higher stage of evolution.

Proposition 4 - Problems in the first three stages appear in the fourth stage and need to be resolved.

Proposition 5 - There is a predictable time period for each stage of evolution.

Proposition 6 - Birth to maturity are predictable phases, but subsequent phases are not predictable.

This study examined the utility of these propositions and models in understanding JRW's history.

The second model used to analyze the findings was developed by Noel Tichy (1983). That model suggests that three subsystems in organizations (technical, political, cultural) are constantly changing according to external and internal stimuli. The history of JRW was tracked using Tichy's model. The research also explored the use of three of Tichy's propositions in describing and explaining JRW's evolution. Those propositions are:

Proposition 1 - The resolution of early birth stage problems in an organization is largely determined by which subsystem is dominant, i.e.: technical, political, cultural.

Proposition 2 - Uncertainty creating events have differential impact on the three organizational subsystems.

Proposition 3 - Organizational subsystems are dialectical and trigger one another.

Review of Summary Model

Cameron and Whetten (1983) suggest that there are four stages in an organization's evolution. They analyzed ten

different life cycle models and integrated those models into one. That synthesis resulted in a four stage model called the summary model.

The summary model is composed of four stages. Those stages are: the creativity and entrepreneurial stage, the collectivity stage, the formalization and control stage, and the elaboration of structure stage (Cameron and Whetten, 1983).

The characteristics of each stage are presented in Table 6:

TABLE 6: Stage Characteristics

Stage	Characteristic	Definition
Stage One	Creativity and Innovation	Creativity and innovation are the main focus of this stage.
	Marshalling	Resources marshalled to keep the organization going
	Little Planning/ Coordination	Little planning and coordination.
	Niche	Formation of a niche.
	Prime Mover	Prime mover has all the power.
	Survival Threshold	Company strives to survive.
	External Support	Development of external support.
	Resource Acquisition	Acquiring resources to stay in business.

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Table 6 continued

Stage	Characteristic	Definition
Stage One	Lots of Ideas	A time when there are lots of ideas.
Stage Two	Informal Communication and Structure	Stage is typically concerned with informal communication.
	Collectivity	A sense of collectivity.
	Long Hours	Long work hours.
	Sense of Mission	The company begins to have a sense of mission.
	Innovation Continues	Innovation continues in the company.
	High Commitment	The employees have a high commitment.
	Human Resource Dev.	The emphasis is on morale, cohesion and satisfaction.
	Sense of Family	Employees are treated like family.
Stage Three	Rules and Procedures	The organization becomes concerned about rules.
	Stable Structure	Structure is formed at this point and is stable.
	Efficiency and Maintenance	Emphasis is on efficiency and maintenance.
	Conservation	The company becomes conservative in decisions.
	Institutionalized Procedures	Procedures become part of how the company operates.

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Table 6 continued

Stage	Characteristic	Definition
Stage Three	Efficiency of Production	There is an emphasis on efficient production.
	Goal Setting and Attainment	The company sets and attains its goals in some cases.
Stage Four	Renewal and Expansion	The organization begins to get concerned about renewing itself and expanding its domain.
	Elaboration of Structure	The structure begins to expand.
	Resource Acquisition and Growth	The organization looks for resources to grow.
	Monitor External Environment	The organization monitors the external environment in order to renew or expand.

First stage success is determined by how well an organization acquires resources, finds external support and grows. Success is also determined by the organization's readiness to meet challenges. The stage is typically concerned with innovation, creativity and marshalling of resources. Stage two (collectivity) emphasizes human resource development/morale, cohesion and human need satisfaction. This stage is typically concerned with informal communication and structure, high member commitment, a sense of family, cooperativeness among members and personalized leadership. The formalization and control stage is concerned with efficiency of

production, rules and procedures and conservative trends. Effectiveness is described in terms of goal setting and attainment, productivity, and efficient information management.

The last stage, elaboration of structure, is concerned with the renewal of the organization. The emphasis is on flexibility, resource acquisition and growth. Effectiveness is determined by how well the organization monitors and controls its environmental relationships (Quinn and Cameron, 1983).

The Four Stages of JRW's History

JRW did evolve in a manner that fit the Cameron and Whetten (1983) four stage model. The critical incident periods did not however necessarily coincide with the four stages of the model. These stages were used to describe and explain the company's development. Dates were used for the stages, but these dates must be reviewed with the understanding that JRW's development was dynamic and non-discrete in nature. Some Stage One issues were still important in Stage Two. For instance, the Prime Mover was still the dominant leader in Stage Two. Therefore, a definite date cannot be attached with certainty to a stage. The vague nature of life cycle boundaries was first reported by Rosen (1986) in his dissertation. A brief description of the major events in each stage was

presented. This was followed by a figure that summarizes those events for each stage. A description of how the events coincided with each stage of the model follows that figure.

Creativity and Entrepreneurship

The characteristics associated with the creativity and entrepreneurship stage are:

Stage One - Creativity and Innovation
- Marshalling Resources
- Little Planning/Coordination
- Niche
- Prime Mover
- Survival Threshold
- Resource Acquisition
- Lots of Ideas

This stage ran from 1975 when Richard Pentland started the business until the end of the second period in 1980. The bulk of the innovative activity was in the first critical period.

The stage began with the company trying to attain financing to manufacture eight track cartridges for the record industry. The eight track concept was the company's first creative idea, but that failed when stereo cartridges were replaced by cassette tapes. The owners then tried to create a cost-effective custom molding

process called injection molding. JRW was one of the first companies to offer that service in the Northeast. The company's early entry into this market gave them a niche in the market place. JRW got a $125,000 loan from Commerce Bank and Trust and began to manufacture rubber parts using the injection molding process.

The company had one converted plastic machine that it used to make rubber parts. JRW operated that machine on a day to day basis with everyone contributing to ship the parts. The manufacturing was a simple process. For instance, the quality control function consisted of Richard Pentland checking the parts before shipment. The company employed three people at this time: the two owners, Richard Pentland and the second owner, along with John Larson (a minority partner). John and Richard were responsible for production while the second owner handled sales and financial matters. Richard Pentland was the prime mover in the organization and was involved in all aspects of the operation. Mr. Pentland also contracted with Robert Martin, an outside sales firm to get him business. Mr. Martin obtained the company's first customer in 1975, Mattatuck Automotive, a company that supplied Ford Motor Company with automobile parts. JRW supplied Mattatuck with a #10 rubber roller.

In 1977, the owners ran out of money, caused by poor money management. The owners invested their money and the bank's money in the business instead of reserving their own funds for personal expenses. Mr. Pentland and his wife borrowed $40,000 from their parents and $10,000 from Robert Martin, their sales representative, to survive as a business. The financial crisis was one example of poor planning. The owners devoted all their time to running the equipment instead of planning.

Management of the company changed significantly in the second period of Stage One (1977-80). John Larson left and the company hired Mark Sussor, a professional engineer, to assist them in the engineering area. Sussor left after a brief period because he did not see a future for himself with the company. The second owner also left the company in 1979. He did not appear to be able to hold up his end of the operation. John Larson was bought out by Richard and Jean Pentland. The company was now being run by Mr. Pentland, the sole owner of JRW.

Stage One closed with the future looking bleak for the company.

A summary of Stage One events is presented in Table 7.

TABLE 7

Event Summary Stage One

Creativity and Entrepreneurship

1975 - 1980

Organizational Components	Events
Environment	An open market for injections molding, survival era.
Resources	Limited Resources: one machine and one customer. Operating capital runs out.
Mission/Strategy	Business plan: eight track idea is replaced by custom molding business. Price strategy, i.e.: Niche. Richard Pentland and second owner set the goals.
Tasks	Owners introduce injection molding technology in the Northeast. Trial and error type of operation. Everybody does everything. Sales effort. Urgency value.
Prescribed Network	Little structure or organization, i.e.: a role/task structure.
People	Autocratic management. Multiple owners.
Organization Processes	Simple processes. Conflictual environment.
Emergent Network	One informal group.
Output	Business plan goals are not realized. A survival goal emerges. Players pull together.

The majority of the energy during this stage was invested in marshalling the company resources, surviving a financial crisis and in the creating and developing an injection molding process in the Northeast. These events coincide with three of the characteristics of Stage One in Cameron and Whetten's (1983) model - marshalling resources, creativity and innovation and survival threshold. The organization also concentrated, to a lesser extent, on developing external support, acquiring the necessary resources to operate, development of a niche, planning and in the generation of ideas. The power of a prime mover was also evident during this stage. All of the above characteristics are in Stage One of Cameron and Whetten (1983) model.

Collectivity

The characteristics associated with the collectivity stage are:

Stage Two - Informal Communication and Structure
- Collectivity
- Long Hours
- Sense of Mission
- Innovation Continues
- High Commitment
- Human Resources Development
- Sense of Family

Stage Two ran from 1977 when the bank refused to refinance JRW's loan until 1980. Stage One and Two overlapped each other in time.

The company began to see light at the end of the tunnel. More work was obtained and machines were added during this stage. The company had acquired the Hasbro account and was trying to land Amtrol. JRW made rubber dog bones for Hasbro. In 1979 JRW began to make rubber parts for Amtrol who supplied rubber parts to the construction industry.

The company bought its second machine as a result of this new business. The Rutital was purchased in 1978. JRW acquired a third machine in 1980 - a Cincinnatti Milacron.

JRW was informally structured at this time. The company did, however, begin to organize itself. Manufacturing was now being carried on in 3 shifts versus one shift in the first stage. Roles also began to form in the company. The owner, Richard Pentland, became the President: his wife, Jean Pentland, became Treasurer and supervisors were hired. Frank Sampson replaced Mark Sussor in the factory and several machine operators were hired to run the two new machines. Those operators were David Pentland, the owner's son, Kenneth Flaherty, Jeffrey Hardy and Brian Brown.

Eileen Crutchner was hired as a finishing person, to finish the product so it could be shipped to a customer. These young workers worked very hard for the company. The owner began to appreciate and trust them and they began to reciprocate. Employees who remained loyal to the company were promoted to supervisor. These young workers were treated like family. The owner even bailed some of them out of jail, according to several organizational members.

Communication was informal during this period. Everything was communicated verbally in the company, essentially because of the close proximity of workers. A telephone booth metaphor was used to describe that close communication pattern.

The informal structure and communication led to conflict in the company. A lack of standardization caused mistakes to occur in the factory. Mr. Pentland got upset with the mistakes and yelled at people in the factory. He and son David began to argue about work issues.

Long hours became the norm as business improved. The company went from an eight-hour day shift in Stage One to three eight-hour shifts a day in the Second Stage.

The company moved from a mode of survival to one of stabilization and growth. In Stage Two JRW was more concerned with stabilizing itself and increasing its sales. The Pentland family began to believe the company had potential.

Stage Two closed with the company developing its first inspection department, the first attempt at formalizing the structure at JRW. Table 8 summarizes the events which occurred in Stage Two.

TABLE 8

Event Summary Stage Two

Collectivity

1977 - 1980

Organizational Components	Events
Environment	JRW emerges from survival era. Sales Opportunities: Hasbro, Amtrol, etc. Petrochemical industry price increases. Innovation continues.
Resources	Cash flow increases, company develops its expertise.
Mission/Strategy	Richard Pentland sets all goals after 1979. Strategy changes from survival to stabilization and growth.
Tasks	Simple Manufacturing. Sense of Urgency. Rutital machine purchased in 1978. Cincinnati machine purchased in 1980. Company continues to learn by experience.
Prescribed Network	Company still structured by roles. Future team established. Finishing department formed.

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Table 8 continued

Organizational Components	Events
People	High turnover. Ownership changes from partnership to family business. Promotion from within now starts. High commitment from underachievers.
Organization Processes	Conflictual environment continues. Manufacturing systems begin to develop.
Emergent Network	Family atmosphere. Social group forms. Managers band together to influence the business. Dick controls managers.
Output	Company is still not profitable. Production increases and quality improves. Confidence of players increases.

The organization concentrated mostly on developing its sales in Stage Two. Employees sensed that sales development was JRW's number one mission. At the same time, JRW was also investing a lot of energy in the development of a management team. That team effort was reflected in the long hours that people worked and in their commitment to each other. The organization could be be described using a family metaphor. The communication and structure were both informal at this point in the company's history. The company also continued to develop its injection molding process. These efforts coincide with the characteristics of Cameron and Whetten's (1983) Stage Two: a sense of

mission, informal structure/communication, high commitment, long hours, collectivity,sense of family and innovation. There was, however, no indication of a human resource development effort in this stage. Human resource development is also a characteristic noted in Cameron and Whetten's (1983) second stage.

Formalization and Control

The characteristics associated with the formalization and control stage are:

Stage Three - Rules and Procedures
- Stable Structure
- Efficiency and Maintenance
- Conservation
- Institutionalize Procedures
- Efficiency of Production
- Goal Setting and Attainment

The formalization and control stage covered a nine year period of time - 1980 to 1989. The formalization of JRW started in the Third Period (1980-83) and ran through the Fifth Period (1986-1988/89). Characteristics of the third stage were also seen in Period Six - the future.

The Third Period (1980-83) of the formalization and control stage was primarily concerned with building sales. The organization had survived its formative years and was ready to build its organization. The strategy was to concentrate on the development of sales. JRW increased

the number of contracts it had with Amtrol and Mattatuck during this period. The company also contracted with a new company named NPC, a manufacturer in the environmental industry. JRW made rubber sewer gaskets for NPC. The financial picture of JRW improved and the company was able to build the organization as a result of this increase in cash flow.

Richard Pentland reorganized the company from a role type of structure to a departmental structure. The company developed its finishing department and formalized the production area. Layers of management were added in the production department. The company now had supervisors, assistant supervisors and foremen. A formal chain of command was instituted for the first time. Mr. Pentland was the owner at the top, David Pentland and Kenneth Flaherty ran the plant, and Jean Pentland managed the office. Eileen Crutcher supervised the finishing operation. Once the organization was structured the company began to concentrate on the efficiency.

The company began to track its production numbers and tested its products for quality problems. JRW institutionalized both quality testing and production monitoring procedures during this period. Run sheets were used to monitor production and the company's computer was used to log bad parts. In addition, the company bought a rotary press capable of producing 2 1/2 million rubber

products and a third Cincinnatti Milacron press. A smaller Desma machine was also purchased at that time. People were added to handle the increase in sales and James Pike was hired as an assistant to Richard Pentland. James developed the material function during this period. Operators were also hired to run the additional presses.

The new equipment and people were used to get the product out the door quickly and at a low price. To do that JRW purchased rubber material at a low price and manufactured a quality product from that material as fast as it could.

The Fourth Period of the formalization and control stage was from 1983 to 1986. The company continued to be concerned about the building of sales, but it was also concerned about maximizing its profit. The strategy became formalized when Mr. Pentland hired M. J. Stacey and Associates to work with him and the top management to develop a written mission statement. That statement declared that the company "intended to be profitable". Top management jointly set the operating goals to attain that mission statement. During this period the company was profitable for the first time. JRW earned $100,000 to $200,000 dollars a year. The Fifth Period was probably the greatest growth period in the company's history.

JRW continued to develop its structure in order to increase the company efficiency. An inside sales manager was hired to develop the sales area - Edward O'Neil. Prior to his arrival all sales efforts were handled by an outside sales representative - Robert Martin. A Maintenance Department was added to maintain the equipment.

The basic structure, however, remained stable. Mr. Pentland continued to run the company. Jean oversaw the office and David, as well as Kenneth, managed the plant. James Pike continued to be in charge of materials.

Other efforts were also made to increase the operating efficiency. JRW needed more space so it moved its finishing operation downstairs, allowing the company to add more machines in its upstairs area. JRW bought four machines to increase productivity in this period - two used Penejet injection molding machines and two used Cincinatties. The company bought a more sophisticated Wang computer in 1986 to handle its production reports, quotes and customer complaints.

The computerization of reports led to a standardization of communication. The company started switching from verbal to written communication in this period. JRW also attempted to standardize its operation by developing job

descriptions and a budgeting system. Richard Pentland hired a consulting firm, the May Company, to assist in developing job descriptions and a budgeting system.

Period Four closed with Mr. Pentland consulting more with the company's key managers. That was the norm until the end of the next period when sales and profits declined to dangerous levels. NPC was lost as a customer and Amtrol notified JRW of its intention to make its own parts in the next period.

The next period in the formalization and control stage was from 1986 when the company lost NPC to 1988/89 when Amtrol was lost. The goal of the company was to grow the business in the beginning of this period, but that changed when the company lost Amtrol. The efforts to replace the lost business were not successful and, by 1989, the company began to run a deficit.

Even with the downturn in sales the company continued to make changes in its operation to improve efficiency. JRW customers were requiring more statistical data on the quality of the company's products. A Quality Control Department was established in this period in response to that customer need. An SPC box, tensile testing machine, elongator and a comparator were bought for the department to monitor and test the quality of its products.

Mr. Pentland also hired Paul Braney, as a consultant, to teach the company how to manage in a cost-conscious manner. That type of management was necessary because the company was experiencing declining sales and profit. Paul Braney was previously the company's accountant. Paul had worked for a big eight accounting firm in Worcester prior to consulting with JRW.

Richard Pentland set a spending limit for his managers. That procedure allowed the managers more freedom in their spending and, at the same time, controlled the expenses. The company was starting to control the way it ran the operation. An example of that control, is that employees' time was tracked by the minute. In the past, the attitude toward time and attendance was more flexible.

The efforts to get sales became more aggressive in 1988 when it hired Bob Pike as Vice President of Sales. JRW became more conservative in sharing company information after the downturn in sales and profits. That conservative trend, however, was not reflected in its decision to move its operation from Holden to Worcester. The move was the result of the eviction by the landlord. Top management felt it better to buy than to lease another building. The company needed more space and the move was seen as a way of building for the future.

Not only did the costs increase but the operation was disrupted in the move. Employees were off balance for at least the first four months of 1989. There were no customer problems, however, because the company had planned its inventory levels.

The organization's structure remained basically the same in this period. Richard at the top, Jean as Treasurer and David as Vice President of Manufacturing. Responsibilities, however, did change in this period. Jim Pike left and Eileen Crutcher took over the materials function as well as the quality function. Robert Pike, as previously mentioned, took over the sales area. Edward O'Neil, the previous Sales Manager, left in 1987. Chip Mellor, who managed the maintenance department, also left in this period. Chip was replaced by Charles Fregault who was hired from outside the company. Robert Martin also came back in 1987. He was hired as a consultant to determine the feasibility of a new venture called Epco. Epco will be discussed in the last stage. Paul Braney, as previously discussed, came on board as a part time Chief Finance Officer in 1989. The company also hired a controller, Robert Degrier, in 1989.

The employees believe that the formalization and control stage type activities will continue in the future.

JRW employees predict the company will have to change its operation in several ways. First the authority for

decision making would have to be shared if the company was going to continue to be successful. JRW could no longer be managed by one person. The company was too big to be managed efficiently by one man. Employees also believed that the company needed to reduce costs by becoming more efficient.

On the positive side, the employees felt that the current employees were capable of meeting future challenges. Those challenges will be elaborated on in the next stage.

Table 9 depicts a summary of the events that occurred in Stage Three.

TABLE 9

Event Summary Stage Three

Formalization and Control

1980 - 1989

Organizational Components	Events
Environment	The financial resources grew during the first four periods. In the fifth period, business conditions declined. In 1986, NPC was lost and Amtrol declines in 1988. By 1989, Amtrol was no longer a customer. A poor sales situation exists in 1989.

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Table 9 continued

Organizational Components	Events
Resources	Cash flow increased until 1989. Equipment was added in production and quality control areas. JRW developed an industry reputation.
Mission/Strategy	Multiple strategies: growth, profit and sales replacement. Mission statement and business goals developed in a collaborated manner.
Tasks	Manufacturing operation gets more sophisticated, state of the art machines and processes. Sales activities intensify as business declines. The move to Worcester is disruptive in the latter part of 1988 and beginning of 1989. Cost cutting plan put in place in latter part of phase.
Prescribed Network	The structure evolves from roles to departments. An organizational chart and job descriptions are developed by JRW and May Company.
People	Several people are hired from outside the company and employees are promoted. Management style changes from autocratic to consultive to participative.
Organization Processes	Computer systems are implemented. Budgeting process is developed by May Company. Communication gets more formal i.e.: reports and memos. 25% labor and 30% material cost plan.

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Table 9 continued

Organizational Components	Events
Emergent Network	Middle managers band together to influence the owner. An office group and factory group develop. Each group is managed by the owner.
Output	Sales increase and a profit is made in the fourth period. Employees are satisfied until the fifth period. The company is effective during most of this time frame.

A considerable amount of energy was spent on setting sales goals and on improving the efficiency of the organization in Stage Three. When business conditions adjusted in the outside environment, so did JRW's goals. Systems were also put in place to increase the company's efficiency. One of those systems was institutionalized as a procedure - tracking quality and production. The company also went from a role type of structure to a company organized by departments. That structure was stable throughout Stage Three. JRW's efforts coincided with the characteristics associated with Stage Three of Cameron and Whetten's model - setting goals/attainment, efficiency/maintenance, efficiency of production, institutionalized procedures and stable structure. The organization did not, however, exhibit a conservative

orientation, nor did it set a great many rules or procedures in this stage. Both are characteristics that are included in Cameron and Whetten's third stage.

Elaboration of Structure

The characteristics associated with the Elaboration of Structure stage are:

Stage Four - Renewal and Expansion
- Elaboration of Structure
- Resource Acquisition and Growth
- Monitoring the External Environment

Stage Four described how JRW was resolving its declining customer base and planning for the future. The stage began with the creation of the Epco Company by the Pentland family and continued into 1989 when the company lost its main customer - Amtrol. Stage Four overlapped Stage Three for the Fifth and Sixth Periods in its history. Employees believed that Stage Four would continue into the foreseeable future - Period Six.

The Epco Company was started in 1986 to replace the business lost when NPC decided to mold its own sewer connector boot. Richard Pentland developed a new style of hoop that was put inside the rubber boot that sealed the sewer connectors. The Conac company was hired to market the Epco product line. Conac didn't bring in a sufficient amount of business to make Epco a going venture. In 1987 Richard Pentland contracted with Robert Martin to

determine if there was a market for this type of product. When Mr. Martin confirmed there was a market, he was hired in March of 1988 to sell the Epco line.

From March of 1988 to March of 1989, Martin built the Epco Company to sales of $390,471 dollars. In July of 1989 NPC and JRW settled a lawsuit that was started in 1986 when NPC believed that JRW copied its product. JRW agreed to make connectors for NPC and NPC, in turn, got the rights to JRW customers. The agreement lasted for approximately eight weeks. In October the owner of NPC called Mr. Pentland and cancelled the deal. According to several JRW employees the NPC owner claimed that Epco's price was too high for him to make a profit. JRW's management felt that the NPC owner planned to get its customers and then back out of the deal.

The company continued to be profitable until 1989. In the latter part of 1988 JRW lost Amtrol as a customer. At the same time it built a new plant in Worcester, Massachusetts. The Amtrol loss was critical because it was their largest customer. The move compounded the company's financial problems because the company's expenses increased in the new building. Rent was higher and energy costs increased. According to several organi-ization members top management had to move because it was evicted by its landlord in the Holden facility. JRW

believed it needed to move if it hoped to expand its operation.

The company attempted to replace the Amtrol and NPC business by broadening its customer base. Robert Pike was brought in the latter part of 1988 to build sales. New business was sought by the company. JRW contracted with Acco, Black and Decker and other companies to manufacture rubber parts. The new businesses, however, did not make up for the lost business from Amtrol and NPC.

JRW began to reduce its costs in 1989 to compensate for the sales decline. That strategy was necessary because the company began to lose money in 1989. By the end of 1989 the company had a $713,036 dollar deficit. Positions were eliminated and the plant was shut down for a brief period of time. The company mission became one of survival.

External pressures were also impacting on the company during this period. For the first time its customers were asking for more statistical quality data on the company's products. Automotive customers were demanding higher quality. JRW responded to that challenge by expanding its Quality Control Department. Additional equipment was purchased and a technician was hired to help monitor quality.

The Fourth Stage was described by one member as a down period. Morale dropped after the layoffs, wage cuts and

plant closing. People openly admitted to be looking for another job.

The future, was viewed by several employees with uncertainty. The main uncertainty mentioned was the financial stability. The drop in sales and the added expense of a new plant worried the employees. Organizational members felt that the company had to increase its sales in order to stay in business. The company was trying to get business from new customers. They were successful with Acco, and Handy Harmon. A potential customer was Harvard Industries. JRW also increased its business with Mattatuck. Sales efforts are a short-range solution. The long-range goal was to grow the company to a ten million dollar company. The company was faced with the prospect of having to expand its product lines and create a niche in the market place if it was to reach its ten million goal.

More resources would be needed if the company were to reach its ten million dollar goal. The chief need was in the Engineering area. Management felt that a professional Process Engineer was needed to design the company's future products and to increase the company's technological capability. The engineering position was the only personnel needed that was foreseen at this time. The company may, however, hire additional office help but this was not seen as being as critical to the company's future

as the engineering position. Most of the personnel that would be needed by the company for the future were already in place at this time.

The company also needed to train people for future technological challenges and managerial changes. One management change would be Richard Pentland's and Robert Pike's retirement. Both men were in their late fifties. Internal people would have to be developed to assume their responsibilities or the company would have to hire from the outside.

Organizational members also felt that the company would have to be managed in a different way. The old style of one-on-one management would have to be replaced by Richard delegating more to his department heads. Secondly, employees at all levels felt that communication needed to be improved in the company. One idea was to structure the company in a way that would improve the flow of informa-
tion. Another suggestion was to increase the communication of company information in order to reduce people's uncertainty about the future.

These challenges or changes could be controlled by management, but the company could not, however, control whether the economy slipped into a recession. That could be crucial since the automotive customers are recession

sensitive. Top management felt that it might be able to survive a recession if it could build up its sales in the next twelve months. The next year (1990) will be a critical period in the company's future.

A summary of Stage Four events is presented in Table 10.

TABLE 10

Event Summary Stage Four

Elaboration of Structure

1986 - 1988/89

Organizational Components	Events
Environment	Epco is created in response to declining sales. Epco is a separate company. NPC is regained in 1989 and lost 8 weeks later. Epco is dismantled because of the NPC deal.
Resources	JRW gets Premier molding machines from NPC in Epco deal.
Mission/Strategy	A period where the company tries to replace the Amtrol and NPC businesses. Near the end of this phase, the company struggles to survive. Long term goal - 10 million dollars in sales.
Tasks	A lot of time is spent on making Epco a viable venture. The company experiments with new technologies in order to broaden its customer base.

continued next page

Table 10 continued

Prescribed Network	Diversification of organization into two companies: JRW and Epco.
People	Period of disenchantment: employees leave the company and morale drops. Research and Development focus: Process Engineer function created.
Organization Processes	Company regresses to a "need to know" style of communication in this phase. Promotion from within norm questioned by employees.
Emergent Network	The formal structure continues to be the way to influence change in the organization.
Output	By November 1989, the company is running a deficit.

When the company lost Amtrol and NPC as customers, it directed most of its energy to the company's renewal and expansion. At the same time, JRW was expanding its operations by creating Epco. These activities coincide with characteristics exhibited in Stage Four of Cameron and Whetten's model - structure elaboration and renewal/ expansion. To a lesser extent, the company was monitoring its customers, regarding their needs, and acquiring the resources necessary to grow. These tactics are also characteristics of the fourth stage of Cameron and Whetten's (1983) model.

A summary of the major events in each stage is presented in Table 11.

Table 11

Major Events in Each Stage

Stage	Key Events
Stage One Creativity and Entrepreneurship	- Marshalling of company resources - Development of an injection molding process - Survival of a financial crisis
Stage Two Collectivity	- Sales Mission - Management team develops
Stage Three Formalization and Control	- Setting and attaining sales goals - Systems developed to improve company efficiency
Stage Four Elaboration and Structure	- Company attempts to generate new business after Amtrol loss - Epco is created

Analysis of Cameron and Whetten Propositions

The Cameron and Whetten (1983) propositions were supported in varying degrees in this study.

Proposition One

The Cameron and Whetten (1983) model is applicable in understanding the life cycle of a family-run entrepreneurial organization. This proposition was supported by the case study findings. The major characteristics described by the Cameron and Whetten's (1983) model were the most pronounced activities in each stage of the company's development. For instance, in Stage One the company's energy was primarily invested in three activities - developing its technology, marshalling its

resources and surviving its financial crisis. Similar characteristics can be found in Cameron and Whetten's Stage One - survival, innovation and marshalling of resources. The summary model was useful in describing and explaining the life cycle of a family-run entrepreneurial organization.

Proposition Two

Organizations evolve through four progressive stages of development. This proposition was also supported by the findings of this case study. The findings showed that the company evolved through four stages: Stage One ran from 1975 to 1980; Stage Two from 1977 to 1980; Stage Three went from 1989 to 1989; and Stage Four began in 1986 and went to 1988/89. Each stage was clearly denoted by the researcher.

Proposition Three

Problems in lower developmental stages have to be resolved before an organization can evolve into a higher stage of evolution. The third proposition was supported by the case history findings. An example of this proposition was JRW's struggle for sales. JRW had to build its sales in order to go from one stage to another stage.

Proposition Four

Problems in the first three stages appear in the fourth stage and need to be resolved. The fourth proposition was supported by the case history findings. JRW was constantly focusing its efforts on sales generation. In Stage One sales were needed to create the organization. Stage Two found the organization increasing its sales to stabilize the organization. Profit was increased in Stage Three by adding new customers and expanding the number of orders the company had with existing customers. The decline in Amtrol and NPC sales created a sales problem in the Fourth Stage. The sales production problems that were reflected in the early periods reappeared in the fourth stage as a sales crisis.

Proposition Five

There is a predictable time period for each stage of evolution. The fifth proposition was not supported by the case history findings. The researcher found different time frames in each stage that could not have been predicted. The stages also overlapped each other. Stage One (1975 to 1980) overlapped with Stage Two (1977 to 1980). The findings showed that stages did not just start and stop, but phased into each other.

Proposition Six

Birth to maturity are predictable phases, but subsequent phases are not predictable. The sixth proposition was supported by the case history findings. The findings showed that birth to maturity were predictable phases in JRW's history. The organization was started in 1975 and it has grown to a point where its technology is mature. The uncertainty of JRW'S future, however, leads this researcher to doubt its predictability.

Review of Tichy's Model

Noel Tichy (1983) posits that problem areas (technical, political and cultural) in an organization adjust to uncertainties in the external and internal environments. Those areas are:

1. Technical Design Problem - Social, financial and technical sources must be arranged so that the organization produces the desired output. In order to solve this problem, management engages in goal setting, strategy formulation, organization design, and the design of management systems.
2. Political Allocation Problem - The allocation of power and resources is the organization dilemma. How the organization is run, as well as who reaps the benefits, must be determined.

3. Cultural Problems - Organizations are held together by normative glue-shared beliefs, values, objectives and interpretations. The organization must determine what values are to be held by what people.

These problem areas are always in a state of change called cycles. A cycle, dynamic in nature, adjusts to the uncertainties in or outside of the organization. In some situations, one cycle triggers another cycle. There are four types of triggers: environmental, technical, political and cultural. The organization's subsystems are triggered by social, political or economic factors in the environment. Technical subsystems are triggered by technological influences either in or outside of an organization. Political subsystems are triggered by conflicts about who sets the goals or how they are set. Cultural subsystems are triggered when someone with different values enters or leaves an organization. The cycles adjust in times of stress by increasing and decreasing when an organizational or environmental threat is reduced.

The purpose of this study was to describe and explain JRW's history. Tichy's (1983) TPC framework was used to identify and analyze cycle patterns within the subsystems in JRW's history. This was accomplished by examining the study findings in relation to the framework and three of Tichy's (1983) propositions. Those propositions are:

Proposition One - The resolution of early, birth stage problems in an organization is largely determined by which subsystem is dominant, i.e.: technical, political, cultural.

Proposition Two - Uncertainty creating events have differential impact on the three organizational systems.

Proposition Three - Organizational subsystems are dialectical and trigger one another.

The Three Organization Subsystems

The Technical Subsystem JRW's arrangment of its social, technical and financial resources were critical in its development. The production of output was instrumental in the company's evolution.

JRW's initial goal of being profitable repeatedly influenced the company's history.

The technical subsystem cycle was first triggered by a cash crisis in 1977. The company had used most of its operating capital and the bank would not give JRW another loan. JRW's first crisis was resolved when the owners borrowed money from their family and the Dog Bone account was obtained. The technical cycle decreased as a result of a cash flow increase. The crisis, however, brough to light the need for a change in strategy. It appeared that the second owner did not have the expertise to handle the company's financial responsibilities. Mr. Richard Pentland bought the second owner out after a two-year

period of disagreements between the owners. The subsystem cycle again relaxed in 1979 with the change in ownership.

The technical system cycle was relatively stable until 1983 when the company ran into material problems. The company's material supplier, B.B. Rubber, was sending the company inferior material according to several organization members. The company resolved the problem by switching to a new supplier - Polysar Corporation. That strategy adjustment reduced the material problem. The technical subsystem cycle decreased until 1986 when the company lost the NPC account - a major customer. The need for a design change became apparent at that time.

JRW decided to make the sewer connectors that it had made for NPC. The company formed a new company, called Epco, in order to produce the seals. Epco was, on paper, a separate company. However, the manufacturing operations supported both JRW and Epco. Epco did have its own sales force. Robert Martin was hired in 1988 to develop that company's sales. Epco sales increased in 1989 by approximately three hundred ninety thousand dollars. The technical subsystem cycle decreased when Epco began to replace the lost NPC business.

Amtrol sales began to decline almost at the same time that NPC left JRW. That triggered a series of goal setting efforts. The company began to look for a sales manager. Those efforts did not produce an acceptable

candidate until 1988 when Robert Pike was hired. Mr. Pike spearheaded efforts to increase sales. The technical cycle was still at a dangerous point because the Amtrol business had not been replaced at this time. JRW was currently losing money.

Figure 19 summarizes the major events that triggered change in the technical subsystem from 1975 through 1989.

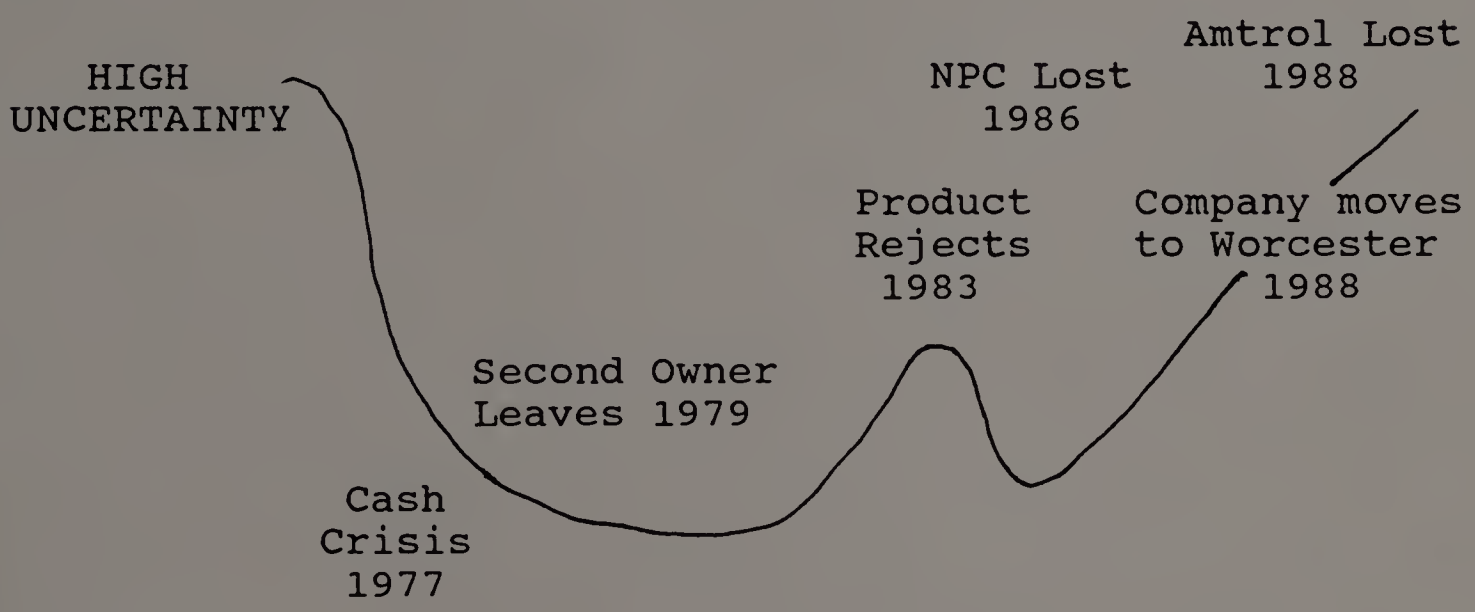


Figure 19

Technical Subsystem Cycle

Figure 19 shows that the technical subsystem changed as a result of output problems, i.e.: poor cash flow and sales decline. Tichy (1983) asserted that an organization must solve output problems through goal setting, strategy

formulation, organizational design, and/or the design of management systems. JRW redesigned the organization when the second owner was bought out in 1979. Mr. Pentland became the sole proprietor. The company also adjusted its technical system by changing its strategy. The company created Epco to replace NPC business. Both events support Tichy's theory that organizations need to solve output problems through changes in design or strategy.

The Political Subsystem The problem of how to allocate power in the organization was a dilemma for JRW. On one hand the owner needed to control the organization due to the inexperience of organizational members during its early stages. That need, however, became a problem in the later stages of the company's evolution. Organizational members resented the owners direction as they became more experienced.

The political subsystem cycle adjusted several times in the company's history. Problems between the original owners were apparent from the beginning of the company's history. Richard Pentland and the second owner had two different styles. Richard was more action oriented and the second owner was a less involved partner, according to several organization members. Richard worked 12 to 18 hours a day while the second owner taught at a local college. The differences became pronounced in 1977 when the company ran out of money. The bank refused JRW's loan

request and tried to take over the company. From 1977 to 1979 the second owner and Richard had an uneasy relationship. The political system cycle was intensified during that period. In 1979 Mr. Pentland bought the second owners part of the business and the cycle waned at that point.

The cycle was triggered again in 1980 when David Pentland began to work more closely with his father. They began to argue over David's responsibilities. Those disagreements intensified from 1983 until 1988 when David Pentland went to a National training laboratores seminar on management. There he learned how to work with his father and Richard Pentland began to lighten his control over David. The political cycle was also triggered in 1988 when the company moved. The landlord evicted the company and the associated move caused a lot of chaos. That chaos was reduced in the first quarter of 1989 when people began to become familiar with the new operation.

During the same period the organization was in conflict with both its supplier and a customer. JRW and B.B. Rubber disagreed about the quality of material. In 1983 JRW wanted B.B. Rubber to take back the inferior material and B.B. Rubber refused. The situation changed when JRW replaced its supplier to Polysar Corporation. Another conflict occurred with NPC in 1986. NPC decided to make its own product instead of contracting with JRW to

make rubber sewer connectors. JRW began to make a similar product and NPC sued the company. The suit was resolved for 8 weeks in 1989. NPC claimed it could not pay JRW's price and reneged on the deal according to several JRW employees. JRW sued NPC for breach of contract. The case is still in the courts at this time.

The political cycle was still in full swing. The NPC suit did not resolve and the rubber sewer connector business would have helped JRW out of its financial crisis. A second uncertainty beginning to surface in regard to top management. Richard Pentland (the President), and Robert Pike (the Vice President of Sales) are in their late fifties. The company needs to prepare for their retirement.

Figure 20 summarizes the major events that triggered change in the political system from 1975 through 1989.

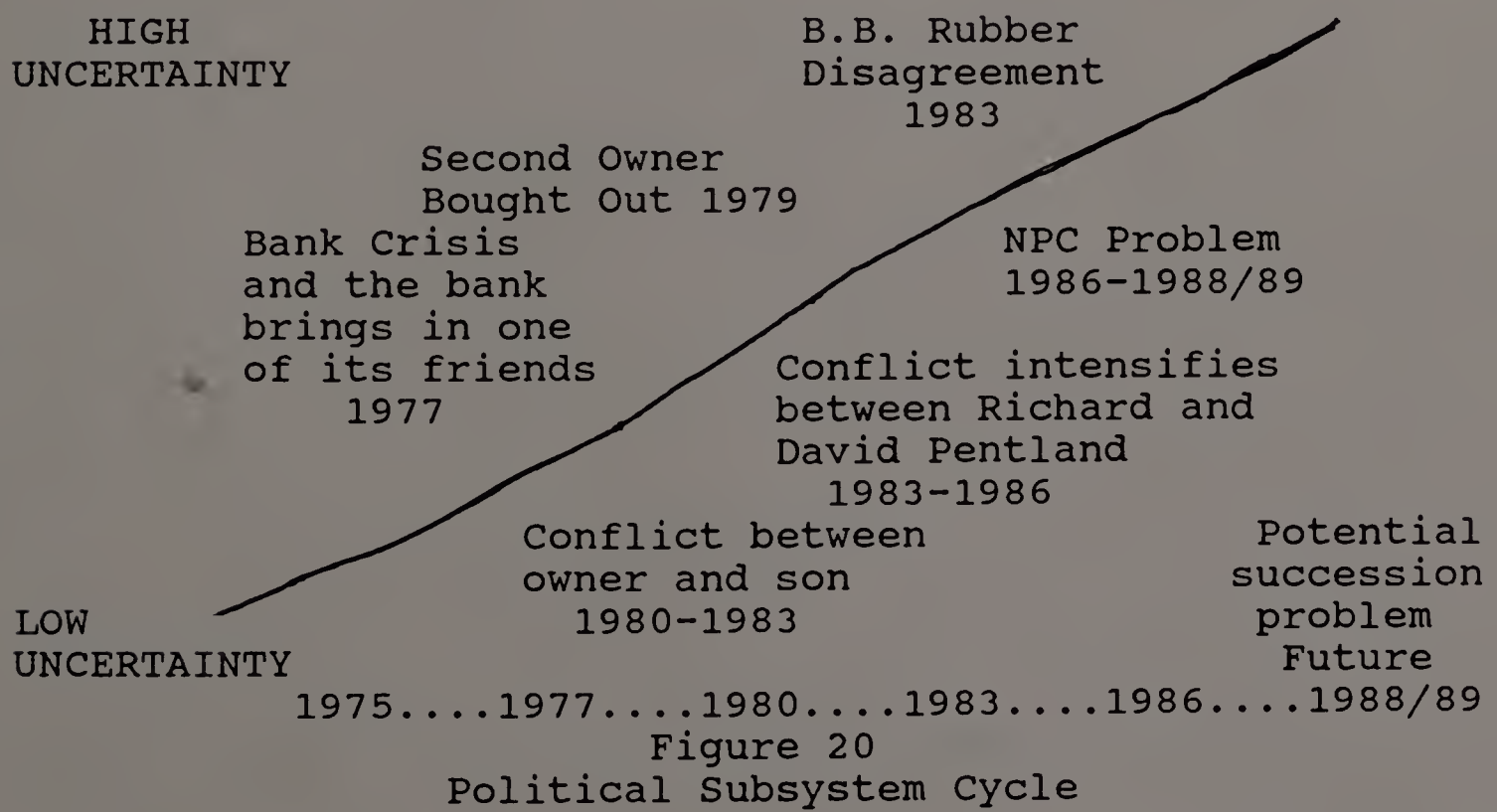


Figure 20
Political Subsystem Cycle

Figure 20 shows that the company was continually impacted by political events in and outside of the organization. Tichy's (1983) model suggests that the allocation of power and resources is an organizational dilemma and that proved true for JRW. The company found itself in a political battle with its bank early in its history. Conflict existed between the father and son regarding how the business would be run. The ownership battle also showed how power allocation can be a dilemma in a small business.

The Cultural Subsystem The need for adjustment in the cultural cycle has been minimal ever since the company was founded. The production of output was primary in JRW's development and the development of shared beliefs, norms and objectives was secondary to the technical subsystems' evolution. Problems did, however, occur in the cultural subsystem.

The difference in Mr. Pentland and the second owner's beliefs about running a business surfaced from the start of JRW. The second owner worked, at best, an eight-hour day and viewed the business as an investment, whereas Mr. Pentland worked eighteen hour days and viewed the business as his life according to several employees. These differences peaked in 1977 when the business experienced its first financial crisis. The second owner was

responsible for the financial end of the business. Mr. Pentland faulted the second owner for not doing that job properly. A period of hostility between the owners began at that time. These hostilities drove the cultural cycle up until 1979 when Richard and Jean Pentland purchased the second owner's portion of the business.

JRW enjoyed nine years of stability and certainty in the cultural subsystem after Mr. Langer left the company. Richard Pentland's beliefs were shared or accepted by all of the employees. In 1988 that changed when David Pentland and his father disagreed on the hiring of another family member. Richard Pentland always believed in hiring either people he had previously worked with or family members.

David Pentland disagreed when Richard proposed that the company hire his brother-in-law as the company's Vice President of Sales. That situation was resolved when Robert Pike, the brother-in-law, was hired and began to generate additional sales. The cultural subsystem, however, continued to be plagued by the perception that advancement in JRW was directly related to family status. Many long term employees believed that seniority does not count at JRW. That perception could cause problems when the economy improves. Employees might leave the company at that time.

Figure 21 summarizes the major events that triggered change in the cultural system from 1975 through 1989.

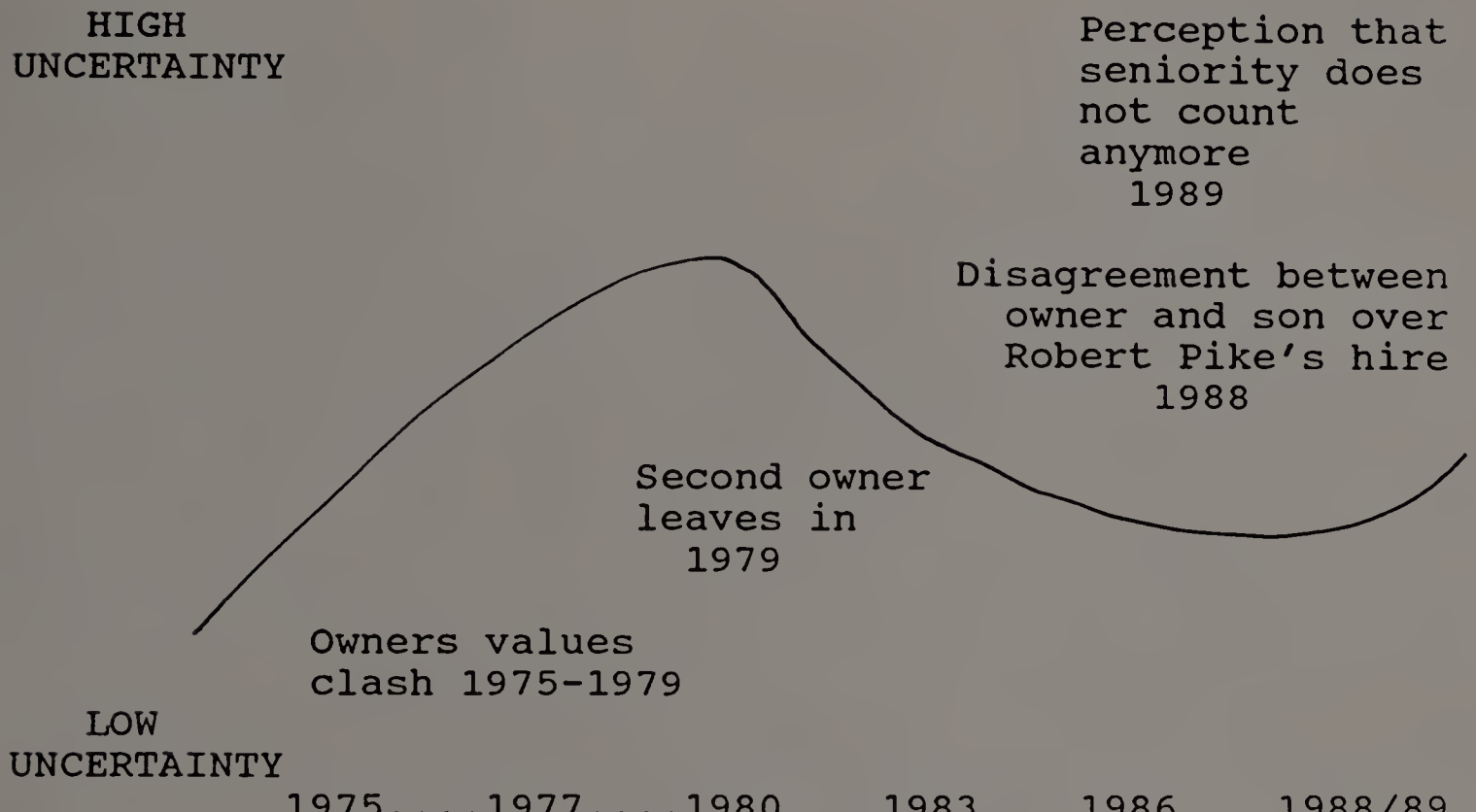


Figure 21

Cultural Subsystem Cycle

Figure 21 shows that the cultural system did not play as important a role in JRW's history as did the technical and political systems. Tichy (1983) states that an organization must determine what values are to be held by its members. JRW did indeed resolve value differences in its history. The difference in the two owner's approaches to work was one example of a value difference. That difference was resolved when the second owner left the company. A second value difference occurred when the

owner's son wanted to hire someone outside of the family for a Vice President of Sales position. The owner disagreed and M. J. Stacey and Associates was brought in to arbitrate the matter. A family member was hired after several discussions between the owner, son and Michael Stacey.

Value differences were either resolved by people leaving the organization or through arbitration during JRW's history. Thus, the findings support Tichy's theory that uncertainty creating events impact on the cultural subsystem.

Analysis of Tichy's Propositions

Proposition One

One of the subsystems (technical, political, cultural) is likely to have more impact on an organization during its early history, than the others. The findings of this study clearly support that hypothosis. The technical subsystem was definitely dominent during the early part of JRW's history. The technical subsystem is primarily concerned with production. The concern for production was reflected in its heavy emphasis on the development of injection molding process in the Northeast and its search for customers.

The importance of generating sales was demonstrated when the company obtained the Dog Bone account (Hasbro).

JRW was able to continue its operation because of an influx of cash from that account.

The company's manufacturing system also allowed it to price its products below its competitors. That low price created a niche for JRW in the injection molding market place.

Proposition Two

Uncertainty creating events have differential impact on the three organizational subsystems. The findings showed that each subsystem was triggered differently by events.

1. Environmental events influenced all three subsystems in JRW's history. One example was when the Commerce Bank and Trust refused to refinance JRW's loan. That triggered a cash flow problem which affected the company's technical subsystem. The political system was also impacted when the owners began to quarrel over how the business would be run. Lastly, the cultural system was changed when the organization went from a partnership to a family-run business. The organization adjusted when the second owner left in 1979 and his values were no longer important to the organization.
2. Technical events influenced the technical subsystem. Support for that phenomenon was ample in JRW's case. The technical subsystem was first triggered when

eight-track cartridges were replaced by cassettes in the market place. The organization invented a low cost injection molding process to cope with the technical uncertainty. JRW adjusted its strategic focus to meet that technology shift by changing from producing eight-track tapes to making custom molding rubber parts for other companies.

The company also adjusted its manpower to meet technical challenges. When engineering experience was needed the company hired Mark Sussor. When organizational development expertise was needed, the organization hired M. J. Stacey and Associates; when financial expertise was needed, the company contracted with Paul Braney, an accountant. The organizational management systems were adjusted in each case to increase the organization's effectiveness.

3. Political events influenced the political subsystem. Adjustments in this subsystem were the result of shifts in agreement over goals or methods. The organization gradually shifted from an autocratic type of organization to one where the owner consulted with the company's managers. An example of that shift was when David and Richard Pentland disagreed over the type of molding operator the company should hire. In earlier periods the decision would have been totally

Richard's. Richard felt the company should hire unskilled workers and David felt the workers should be skilled. The disagreement was resolved when Richard went along with David's belief.

4. Cultural events influence the cultural subsystem. Support for that idea has been limited at this time. Cultural adjustments were primarily limited to the hiring or firing of organizational members. One event was when the original owner left JRW. Mr. Langer's exit did not seem to have a great impact on the organization. The company's beliefs or values did not appear to change greatly after his departure. The second event was the hiring of Robert Pike. Robert was hired in 1988 and it is too early to determine if he has had an impact on the company's values or beliefs. Although his employment did cement an existing value - that top management should either be someone Richard Pentland knows or a family member.

Proposition Three

Organizational subsystems are dialectical and trigger one another. The bank crisis was one example of the dialectical nature of subsystems. The cash flow crisis, a technical uncertainty, triggered arguments between the owners (political uncertainty). That, in turn, triggered a cultural adjustment when the second owner left the business.

Both the Cameron and Whetton (1983) and Tichy (1983) models were useful in describing and explaining the events that transpired during JRW's history. The findings also supported their propositions in varying degrees. No support was evident for Cameron and Whetton's fifth proposition, i.e. that there is a time period for each stage of evolution. Limited support was demonstrated for Tichy's second proposition - that cultural triggers cause changes in the cultural subsystem.

Summary: An Integrated Schema

The researcher used both the Cameron and Whetten (1983) and Tichy (1983) models to trace the company's history through its different periods. That integrated schema is on pages 205 and 206. The Cameron and Whetten (1983) model showed how the company had progressed through four stages of development. The first stage, the creativity and entrepreneurial stage, indicated how the organization used its inventiveness to overcome many obstacles, such as the switch from eight-track tapes to cassettes as well as the financial crisis. Stage two, the collectivity stage, showed how the company began to form into a cohesive entity. The third stage, formalization and control, demonstrated how the organization became more efficient as a business. The fourth stage, elaboration of structure, described how the organization attempted to

expand its structure by creating Epco. The model also showed how the company is currently trying to renew itself.

Tichy's model (1983) helped the researcher describe and explain how the organization adjusted to uncertainties inside and outside the organization. Environmental uncertainty in the form of the bank problem, explained why JRW adjusted all these subsystems (technical, political, cultural). The technology problem showed why the company adjusted its strategy (technical subsystem) from eight track tapes to a custom molding type of operation. Political triggers such as the disagreement on the hiring of molders between Richard and David Pentland helped to explain how the organization coped with political dilemmas. The cultural system was explained, at one point in terms of how the company handled differences between the values of the second owner and Richard Pentland.

By combining both models, an in-depth picture of JRW emerged. Cameron and Whetten's (1983) model showed how the organization progressed through four successively more complex stages of development from a simple manufacturing operation to a two division organization. Simultaneously, uncertainty creating events triggered the three subsystems cycles during these stages. That uncertainty increased as the external sales environment became more volatile and

the internal workings of JRW became more complex. For instance, the loss of Amtrol triggered the need for the organization to adjust its strategic focus. A technical subsystem adjustment. The renewal process, a strategic move, is also characteristic of the fourth stage of Cameron and Whetten's model. Thus, a cycle and a stage were changing simultaneously.

Events in the environment appear to have triggered increased uncertainty in the subsystem cycles in the top portion of Figure 22. Those changes are also reflected in the increased sophistication of the organization's developmental stages, which are located in the bottom part of Figure 22.

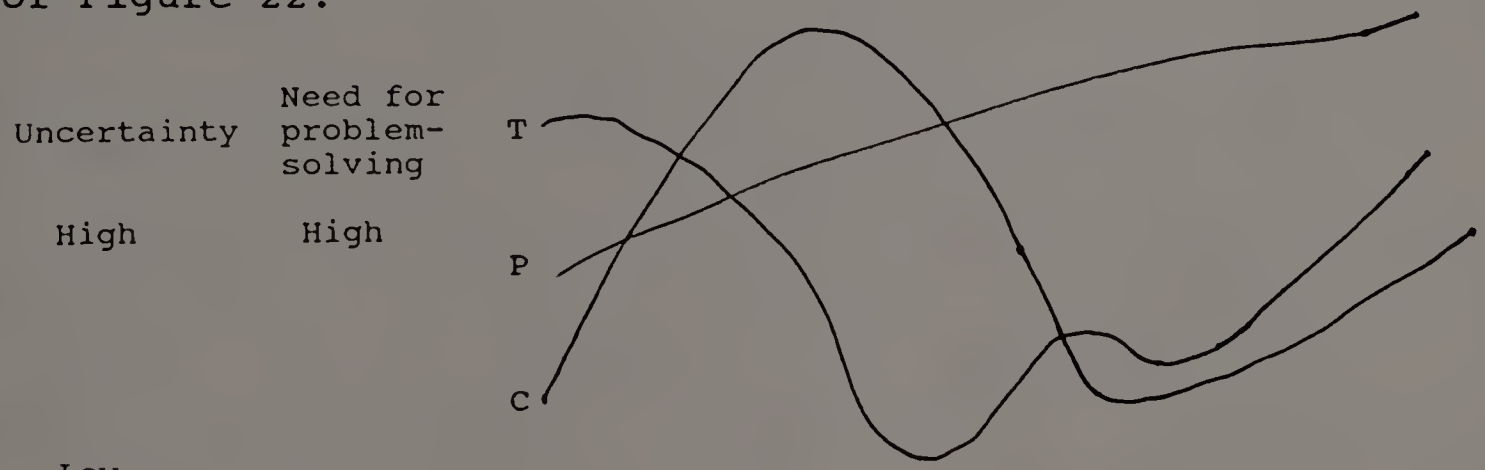


Figure 22
Integrated Schema

continued next page

FIGURE 22 CONTINUED

ORGANIZATIONAL COMPONENTS	STAGE I CREATIVITY & ENTREPRENEURSHIP 1975-1980	STAGE II COLLECTIVITY 1977-1980	STAGE III FORMALIZATION & CONTROL 1980-1988/89
ENVIRONMENT	OPEN MARKET. SURVIVAL ERA.	JRW EMERGES FROM SURVIVAL ERA. SALES OPPORTUNITIES. INNOVATION CONTINUES.	NPC LOST IN 1986 AND AMTROL DECLINES IN 1988. AMTROL LOST IN 1989.
RESOURCES	LIMITED RESOURCES		FINANCIAL RESOURCES GROW IN 1ST FOUR PERIODS. SALES DECLINE IN FIFTH PERIOD.
MISSION/ STRATEGY	BUSINESS PLAN: NICHE PRICE STRATEGY	STRATEGY CHANGES FROM SURVIVAL TO STABILIZATION.	MULTIPLE STRATEGIES.
TASKS	TRIAL AND ERROR TYPE OF OPERATION.	SIMPLE MANUFACTURING	MANUFACTURING GETS MORE SOPHISTICATED.
PRESCRIBED NETWORK	LITTLE STRUCTURE.	FUTURE TEAM ESTABLISHED.	COMPANY GOES FROM ROLE TO DEPARTMENT STRUCTURE.
PEOPLE	MULTIPLE OWNERS	BUSINESS GOES FROM PARTNERSHIP TO FAMILY BUSINESS.	MANAGEMENT STYLE CHANGES FROM AUTOCRATIC TO PARTICIPATIVE.
ORGANIZATIONAL PROCESSES	SIMPLE PROCESSES	CONFLICTUAL ENVIRONMENT.	COMPUTER SYSTEMS ARE IMPLEMENTED.
EMERGENT NETWORK	ONE INFORMAL GROUP.	FAMILY ATMOSPHERE.	MIDDLE MANAGERS BAND TOGETHER TO INFLUENCE THE OWNER.
OUTPUT	BUSINESS PLAN GOALS ARE NOT REALIZED.	COMPANY IS STILL NOT PROFITABLE.	PROFIT IS MADE IN THE FOURTH PERIOD.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Summary

The evolution of JRW, a small Family-Run Entrepreneurial Organization, was described and explained using two models, the TPC framework developed by Noel Tichy (1983) and a summary model designed by Cameron and Whetten (1983). The study followed the development of JRW, using the above models, from 1975 to 1989.

The findings of this study were presented in Chapter Four using the open systems approach which organized data along eight dimensions: Inputs, Mission/Strategy, Tasks, People, Prescribed Networks (formal organization), Organizational Processes, Emergent Networks (informal organization) and Outputs. The eight dimensions were used to describe and explain six critical periods in JRW's history.

The findings were analyzed using both the TPC framework and the summary model. The propositions of each model were also examined to see if they supported the findings.

The Cameron and Whetten (1983) model was useful in describing and explaining events as they unfolded during JRW's history. The four stages of this model were clearly evident in the company's evolution. Those stages are: Stage One (Creativity and Entrepreneurship), Stage Two

(Collectivity), Stage Three (Formalization and Control), and Stage Four (Elaboration of Structure).

Stage One showed how JRW used innovation and creativity to establish themselves in the market place. The collectivity stage demonstrated the power an organization can exhibit when it organizes individuals into a team. The Third Stage showed how goal setting and increased efficiency affected JRW's bottom line. The company grew during this period, from an organization of $834,831 in sales to a $3,586,763 company. The last stage of the summary model showed how the company attempted to expand when it created Epco in 1986 and that it has begun to contemplate its renewal.

The second model, Noel Tichy's TPC framework (1983), was also helpful in explaining how and why the company adjusted to external and internal uncertainties during its history. These uncertainties triggered one or all of the organization's subsystems (technical, political, cultural). The banking crisis was an example of an uncertainty which caused all three subsystems to adjust during the second critical period. Technically the company marshalled all its resources and activity towards generating sales and product development. That strategy helped the organization survive an early period of instability. Politically the Pentland family began to influence the business in the second period in ways that eliminated the second owner's role. The cultural subsystem adjusted when the second owner left the business.

An integrated schema, developed by Rosen (1986), was used to integrate both models. That schema was especially helpful in showing the patterns from stage to stage and the adjustments that JRW made to uncertain environments. Those patterns and adjustments were used to answer two of the three research questions posed in this study:

- Did Jefferson Rubber Works move through a number of distinct stages or changes in its evolution? And if so:
  - How did the organization evolve to its current stage of development?
  - Why did the organization evolve to its current stage of development?
  - Where is the organization currently in its development?
  - What are the implications from the previous questions for Jefferson Rubber Works' future development?
- Do the theories of Noel Tichy (1983) and Cameron and Whetten (1983) apply in describing and analyzing a small family-run organization?

The third research question will be addressed in the concluding section of Chapter Six:

- Can Rosen's (1986) research methodology of combining two theories be replicated in a different type of organization - a small family-run organization?

Conclusions

Four topics will be addressed in the final section of the study. Those topics are:

1. The benefits JRW might derive from this study.
2. The effectiveness of the research design.
3. The contributions that this study has made to the field of organizational studies.
4. A commentary on future research directions.

JRW Benefits - Learning From the Past

JRW might look to the Cameron and Whetten (1986) and Tichy's (1983) models for answers in planning the future. The models could be used as planning tools in addressing major issues and what needs to be done about those issues.

JRW might first look at the Cameron and Whetten stage model. In Stage One, the company invented a low cost injection rubber molding process. The market place embraced that process and JRW's sales increased. Reflecting on how the company invented the first process may help it develop another innovative technology. A new process, if successful, might enable the company to renew itself. Renewal is the main emphasis in Stage Four. JRW is currently in that stage.

Another issue which needs to be addressed is efficiency. The company emphasized production efficiency in the Third Stage of its history. During that time JRW made a profit. More than ever the company will have to devise ways to decrease costs through more efficient means of

production. Energy will have to be put into the cost reduction areas, since sales have not been obtained, at this point, to replace the Amtrol business.

The company might also benefit from reflecting on how it handled leadership problems in the past. In Stage Three (Formalization and Control) the owner began to adjust his management style from directive to consultative, a change that allowed the company to grow in small ways. Mr. Richard Pentland might further influence the company by adjusting his style to one of participative management. That style of management is very successful with managers who have significant job knowledge and experience. All of the current managers have a minimum of 12 years experience with JRW or other industry experience. A group of management theorists suggest this same type of approach. Carew, Parisi-Carew and Blanchard (1984) suggest management exert less direction as a group gains more experience in its work.

Second, the company might use Tichy's model to see how it has adjusted its subsystems to past uncertainties in its external and internal environments. In Stage One, the company switched its business strategy from producing eight track cartridges to making custom molded rubber parts. That change was necessary as the market place had switched from eight track cartridges to cassette tapes. A similar type of switch may be necessary in their current stage (Elaboration of Structure).

The company may need to identify a niche in the market place and adjust its technical strategy to meet that niche. Increasing competition in the custom rubber molding industry may necessitate that type of strategy switch.

JRW needs to plan for the retirements of Richard Pentland and Robert Pike. Both executives are in their late fifties. The organization does not currently have a plan to fill those positions. The political uncertainty of that void is an issue that needs to be addressed. Energy will have to be put into developing a succession plan or some day the company might find itself without capable leaders.

Finally, the company might benefit from remembering a hard earned lesson which it experienced in Period One. At that time, the present owner (Richard Pentland) and a previous owner had different management styles. Mr. Pentland's values dictated a style which emphasized urgency; the second owner was more laid back in his approach. That uncertainty caused problems in the cultural subsystem. Those problems were only eliminated after the second owner left. In the future it will be important to hire people whose values are similar to the current top management team. The cultural fit of future hires (the engineering opening and financial slot) will be critical.

The company may gain valuable insight from the use of Tichy's (1983) and Cameron and Whetten's models as planning tools.

Effectiveness of Research Design

The design included a data collection section, data analysis section and a pilot interview.

Overall Design A qualitative design was used to identify and highlight the themes and patterns in the six periods of JRW's evolution. The design was especially useful in illuminating how and why JRW developed to its present state. A narrative style was used which gave the study a depth that could not have been achieved using a quantative design. The design did, however, limit the generalization of the study findings. The findings were generalizable to only one company.

Data Collection A stratified sampling procedure was used to identify research subjects. Subjects were chosen by length of service and organizational level. That approach worked well because all levels of employees were considered when collecting the data.

The data were gathered in two phases. First boundaries were established by the organizational members, for six periods in the company's history. The researcher then collected data during the six periods using an open system interview format. That approach avoided an arbitrary categorization of the periods in JRW's evolution.

The Interview Format The interview format was effective after the pilot was completed. The pilot interview took three and a half hours. Probes were eliminated in subsequent interviews. An example of the abbreviated format is depicted below:

1. Tell me about the key company goals at that time?
2. Who set the goals?
3. Did the company incorporate values in their goal setting?
4. Were there any critical changes in the goals and why?

The four questions were used to gather information on the eight open system dimensions during the company's six critical periods. The eight dimensions were: (Inputs) Environmental Resources, (Mission) the reason for the company's being, (Tasks) how work was accomplished, (People) Managerial Style and Motivation, (Prescribed Network) the formal structure, (Organizational Processes) decision making and communication style, (Emergent Networks) informal groups and (Output) the company's effectiveness.

Analysis of Documents A review of company documents was particularily helpful in verifying participants' comments. Documents were also helpful in describing the organization structure and its business plans. Participants' comments could not have been properly illuminated without using organizational charts or the business plans.

Investigator Bias This type of bias was minimized because of the precautions which were taken in this study. First, only data that could be substantiated by at least two research subjects was used in the findings section. Company documents were also used to resolve differences in interpretations by organizational members. When documents did not suffice both interpretations were included in the findings section.

The researcher's familiarity with the organization also helped to eliminate inaccurate reflections.

Data Analysis Both Noel Tichy's (1983) and Cameron and Whetten's (1983) models were useful in interpreting the data.

Tichy's model clearly showed how the three subsystems (technical, political, cultural) adjusted to uncertainty inside and outside the organization. That picture was helpful in illuminating the how's and why's of JRW's evolution. The findings also supported the three Tichy propositions used in this study.

Cameron and Whetten's model helped to explain the stages which JRW went through and the dilemas it now faces as an entity.

Pilot Study The pilot study helped the researcher test the usefulness of the analytical tools, the interview format and the reliability of the codes used in data analysis.

The researcher found the study models were effective in describing and explaining the company's history. The pilot study was, however, not a realistic picture since only one research participant was used in the pilot.

The interview format, as previously mentioned, was shortened by at least two hours. A modified format was easier to manage and less tiring to the research subjects.

Finally, the researcher was able to test the codes that would be used in the study to analyze the findings. Those codes were refined and modified as a result of the pilot.

Study Contributions

This dissertation has contributed to the field of organizational studies in several ways. First this study confirmed the notion that JRW, a family-run entrepreneurial company, did indeed move through a number of distinct stages or changes in its evolution. That confirmation adds to the existing body of knowledge about life cycle theory. Second, the study expanded on and refined the theoretical constructs of Noel Tichy (1983) and Cameron and Whetten (1983). The third contribution made was in the field of small organization research. Previous studies had either been of poor empirical quality, (discursive writings) or quantitative in nature. Lastly, this study replicated Rosen's (1986) methodology in a different type of organization - a small family business. Rosen (1986) found that the summary model was useful in understanding a voluntary organization's (MAPPS) development. This study

also found the summary model helpful in describing the evolution of JRW, a manufacturing organization. The previous study (Rosens 1986 dissertation), also found that MAPPS life cycle could be explained in terms of how its subsystems adjusted to uncertainties in the environment. This dissertation confirmed that concept in a family run entrepreneurial organization (JRW). There were, however, differences in the adjustment of subsystems within each organization. MAPPS history was dominated by adjustments in its cultural subsystem. JRW's history was impacted most by adjustments in its technical subsystem. Rosen's (1986) dissertation also showed how the technical subsystem was the next most prominent subsystem in MAPPS history. JRW findings showed how the political subsystem was the next most influencial subsystem after the technical subsystem.

The last finding difference concerned both organization's least influencial subsystem. Rosens (1986) study found the political subsystem to be the least influencial subsystem in MAPPS history. This dissertation found that JRW's cultural subsystem had the least impact on its life cycle.

The findings of this dissertation indicated that a family-run manufacturing business is primarily concerned with its technical subsystem. The purpose of the technical subsystem is to produce output (Tichy, 1983). JRW was and is primarily concerned with its output. Study findings also indicated that political strife is inherent in a

family business. Family dynamics cause disagreements that add to the normal political strife which exists in a business. Lastly, the cultural subsystem appears to be the most stable subsystem. Family values and bonds appear to hold the organization together during periods of uncertainty.

Rosen's (1986) study confirmed several propositions espoused by Cameron and Whetten (1983). The MAPPS study confirmed that problems in each stage have to be resolved for the organization to progress to its next life cycle stage. The findings of this dissertation also confirmed that proposition. Rosen's (1986) study also confirmed the proposition that the stages from birth to maturity are predictable, but subsequent stages are not predictable. The JRW findings showed how each stage (creativity and entrepreneurship, collectivity and formalization and control) were predictable. The future of JRW (elaboration and structure) is not as predictable. Neither was MAPPS. Rosen's (1986) study also found that there was no predictable time period for MAPPS movement from stage to stage. The JRW study findings agreed with the MAPPS findings.

Each study (MAPPS and JRW) analyzed two additional propositions. The MAPPS study found Cameron and Whetten's (1983) proposition that a biological metaphor has value in

describing a voluntary organization's development to be inconclusive. That proposition was not a focus in the JRW study. The JRW study found merit in Cameron and Whetten's (1983) proposition that problems in the first three stages appear in the fourth stage. Rosen (1986) did not investigate that proposition in his study.

Both the JRW and MAPPS findings corroborated Tichy's three propositions. The first proposition, however, was confirmed with a different emphasis. Proposition one states that early birth-stage problems are determined by which cycle is dominant. In JRW's case, the technical subsystem was dominant and resolved early birth-stage problems. In Rosen's (1986) study, the cultural system played the dominant role in resolving problems in the early part of MAPPS history. Tichy's (1983) second proposition states that uncertainty creating events have different impact on the three organizational subsystems. Rosen found that environmental changes impacted upon all three systems. The JRW study findings were similar to Rosen's (1986). All three subsystems were affected by the bank crisis in 1977. Rosen also found that a technology change effected the technical sybsystem. JRW was definitely influenced by the lack of injection molding technology available in 1975. Rosen found shifts in MAPPS' goals to be inconclusive. The JRW study findings showed just the opposite, especially

when the ownership changed in 1979. The MAPPS' study tentatively confirmed shifts in agreement over methods. JRW findings strongly confirmed that shifts in agreements over methods impacted on the organization. Several organizational members left when disputes arose over how JRW should be run. Both dissertations found it hard to confirm that the cultural subsystem was impacted by people entering or leaving the organization.

Tichy's (1983) third proposition states that organizational subsystems are dialectical and trigger one another. Rosen's (1986) dissertation showed how cultural differences (traditionalists versus entrepreneurial types) erupted into a political riff when MAPPS' factions disagreed upon how to approach the state for funding. A similar type of eruption occurred at JRW. Richard Pentland disagreed with David Pentland on the strategy for filling a sales manager job. Their beliefs clashed and that clash resulted in disagreements between the father and son about the recruitment strategy. Cultural differences triggered a political crisis. Both studies support Tichy's third proposition.

This dissertation confirmed that Rosen's (1986) methodology could be used to study a small family-run business. Thus, answering the third research question:

- Can Rosen's (1986) research mothodology, of combining two theories, be replicated in a different type of organization - a small family-run organization?

Future Research

It is hoped that this study will stimulate other researchers into employing the Tichy (1983) and Cameron and Whetten (1983) models to understand life cycles in small family-run entrepreneurial organizations. Multiple studies will hopefully generate a better understanding of the growth and development of this type of organization in an effort to reduce the failure rate.

APPENDIX A

INTERVIEW FORM

INTERVIEW FORM

Please read:

Please describe the turning points you believe are critical to Jefferson Rubber's history. An example of a critical point might be the purchase of your company by a large conglomerate. For your convenience, a company history line has been drawn below. Describe the critical turning points along that line. Pay special attention to events that either slowed the company's development or helped in its development.

1974 |----------|----------|----------|----------| 1988

APPENDIX B

INTERVIEW GUIDE

INTERVIEW GUIDE

INTRODUCTION

Each interview will be conducted in accordance with the ethical standards as established in Kidder's (1981) Ethical Implications. The following areas will be covered.

1. All participants will be given a consent form which will include the purpose of the study and explain how he or she was selected.
2. All participants will be allowed to decline if they do not want to participate.
3. All participants will be treated with respect.
4. No participant will be asked to say or do anything that would diminish their self respect.
5. I will ask permission to tape the interview before it begins.
6. The privacy of each participant will be guarded during and after the interview.
7. I will share my background with all participants in the area of inquiry.
8. Topics will be avoided which might invade the privacy of a participant.

A copy of the human subjects consent form that will be used in this study is in Appendix C.

DESIGN AND CONTENT

The interview guide will be a modification of a guide used in Rosen's (1986) study of a voluntary organization.

An open systems model that was developed by Noel Tichy (1983) will be used in this study to capture interview data. Tichy's (1983) model covers eight dimensions of an organizational system. Those dimensions are: inputs (history/environment/resources), mission/strategy/ objectives, tasks, people, prescribed organizational structure (formal organization), organizational processes, emergent networks (informal structures) and output. Questions will be asked about each dimension.

A series of questions will be asked under each dimension. The sequence of those questions will be:

1. What were the key characteristics of the organizational component at the time you become involved?
2. What critical changes occurred and when? Why did they occur? (Rosen, 1986)

Data will be collected on the past, present and future of Jefferson Rubber Corporation.

The guide format may be modified during the study depending on what the researcher finds in conducting this type of interview.

INTERVIEW FACT SHEET

Name of Interviewee: _____

JRW Employment History:

Period of Involvement	Position	Relationship to Firm
From _____ To _____		
From _____ To _____		
From _____ To _____		
From _____ To _____		

Total years of employment at JRW _____

Date of Interview _____

Family Relationship _____

Start Time _____ Finish Time _____

Total Time _____

INPUTS

History: (Ask founders and original participants)

* Why did you start or join Jefferson Rubber Works?
* What economic, political or cultural events influenced you to start JRW? Those events might have been either planned or unplanned.
* What motivated you?

Environment:

* When you started or joined Jefferson Rubber, what was the nature of the outside world/business environment, i.e., government regulation, political business climate, economic climate for business and society's openness to new businesses.
* What critical changes occurred in the environment over the years, and when did they occur, i.e.: constraints on growth, opportunities in the environment, shifting of customers or suppliers, scarcity/abundance of resources or emerging competitors.

Probes:
- Why?
- How did those changes effect Jefferson Rubber?

Resources:

* When you became involved with Jefferson Rubber, what resources did the company possess?

  Probes:
  - Tell me about the company's financial resources, technology, types of people and their background, as well as what kind of reputation or goodwill the company had at this time.

* What critical changes in resources occurred and when, i.e.: number and types of people, revenues, activities, technology, products, clients?

  Probes:
  - Why did these changes occur?
  - How did the changes effect JRW's development?

MISSION/STRATEGY/OBJECTIVES

* When you became involved with JRW, what was the company's mission/strategy/objective?

  Probes:
  - Tell me about the key company goals of JRW.
  - How general or specific were the goals and were they communicated in writing or verbally?
  - Who set the goals for JRW?

- Did JRW incorporate values in their goal setting/strategies?
- Were the goals planned or did they just happen because that's the way things occurred at JRW?
- Was there an internal and external focus in the stragegy(s)?
- What were the company's short and long term strategies?

* What important changes in the company's mission/strategy/objectives occurred during your employment or association with JRW?

Probes:
- Why did these changes occur?
- How did JRW handle these situations? What were the results?

TASKS

* When you became involved with JRW, what were the primary activities that the company performed in order to carry out its mission and strategy?

Probes:
- Tell me about the routine kinds of operations that were performed by the company and your department.
- What kinds of business were you in?
- How was business conducted?
- Did JRW develop an operating plan?

- Did the company implement a control function?
- What were the technologies that were used at JRW, i.e. how things were combined to achieve a final output?
- Who controlled how those activities were carried out and how did they control those activities?
- How did the organization believe things should be done, i.e. symbolic events, role modeling and clarification of values?

* What critical changes occurred in these activities?

Probes: - Why
- What were the results of these changes?

PEOPLE

* When you first became involved, how would you describe your leadership style and the leadership style of other key people?

Probe: - The terms autocratic, participative and laizze faire will be used to clarify leadership style for participants.

- How did JRW match people with the technical tasks that needed to be performed, i.e. through selection/ training, etc.?
- What attempts were made to match people's values with the company's culture, i.e.: senior members indoctrinate junior workers.
- Did JRW try and match its political needs to organizational opportunities, i.e.: leadership shifts?

* What key changes occurred in leadership and personnel?

Probes:
- Why did these changes occur?
- What were the results of these changes in people?

PRESCRIBED ORGANIZATIONAL STRUCTURE (FORMAL ORGANIZATION)

* When you became involved, what was the formal structure of the organization, i.e., organization structure (charts), roles, committees, policies, procedures, etc.
* How was the work organized, i.e.: roles such as production, sales, etc.

* How was authority distributed to the above roles, i.e.: rules, hierarchy, goal setting, committees, etc.
* Did the managerial style match the structure, i.e.: the leader's values or beliefs worked well with the structure in place.
* During your involvement, were there any critical changes in the structure of JRW, i.e.: roles, rules, hierarchy, committes, etc.? If so, please explain them in detail.

Probes:
- Why did these changes occur?
- How did the changes impact the company?

ORGANIZATIONAL PROCESSES

* When you became involved, what were the characteristics of the following organizational processes?

1. Communication: How would you describe the degree of openness, timeliness, direction and quantity of information flow in JRW?
2. Conflicts: How did people behave and what was acceptable when conflict occurred in JRW?
3. Decision-making: How would you describe the degree of participation, systemization and flexibility?

Were planning systems established to support the company strategy, i.e.: budgets, job descriptions and reporting systems?

How did people get ahead and who were they?

How was information controlled and by whom?

Did people get selected and/or promoted who reinforced the way things were done at JRW?

* What critical key changes occurred in the above processes?

Probes:
- Why?
- How did these changes effect the company?

EMERGENT NETWORKS (INFORMAL STRUCTURES)

* When you became involved with JRW, how would you describe the relationships between JRW employees?

Probes:
- Were there identifiable clusters / two or more people who cooperated together in order to exert influence?
- What information did they tend to cluster (come together) around?
- Were these relatively durable small clusters?
- Were there informal clusters of "old guard" and "young turks" who were mobilized around decisions?

- How were those informal clusters managed, i.e.: the dominent coalition controlled through tight controls or were they divided so they couldn't gain power? The other possibility would be that the coalition shifted its base depending upon which cluster possessed the needed competence.
- What did the cluster believe about JRW's operation?

* What were the critical changes that occurred in these networks (clusters/groups)?

Probes:
- Why did the changes occur?
- What were the outcomes caused by the changes?

OUTPUT

* Overall, how effective was JRW in attaining its goals?
* Was there a clear relationship between the amounts of resources spent on the various goals, and the importance of these goals?
* Were goals and resources adjusted as the environment changed, and if so, how? (Clients, suppliers, economy, political landscape, etc.)

* Were there organizational learnings?
* Were there organizational failures?
* Describe organizational growth, i.e.: financial, equipment, personnel, etc.
* Describe organizational adjustments, i.e.: mission, tasks, structure, people, processes/systems, cliques.
* What was the level of formalization and standardization of policies and procedures?
* Describe any successful strategies JRW used at during that time period?
* How satisfied are you with your involvement in JRW? Why?

THE FUTURE CHALLENGE

* What are the major opportunities, uncertainties and challenges that JRW will face in the future?
* What changes or modifications will JRW need to make in order to successfully meet its future challenge?

Probe: - What will need to be changed or modified in the mission/goals, people, structure (informal/formal), tasks or processes? Will additional resources be needed?

APPENDIX C

PARTICIPANT PERMISSION FORM

PARTICIPANT PERMISSION FORM

Dear Participant:

You have been selected to participate in a research project entitled "The Life Cycle of a Small Family-Run Entrepreneurial Organization: A Case Analysis of Change and Growth". This project is being conducted by Michael J. Stacey as part of his requirements for a Doctoral Degree in Education. The study will be supervised by three members of the School of Education at the University of Massachusetts. Those professors are: Dr. Donald K. Carew, Dr. Gretchen B. Rossman and Dr. John Simmons. Your participation is voluntary and, if you agree to participate, you are free to withdraw your consent and discontinue participation, without prejudice, at any time.

The purpose of this study is to understand how and why Jefferson Rubber Works evolved over time. To accomplish that task the study will examine patterns and themes that occurred in the company's past and are still happening now. Those findings may imply future directions for the company to consider in its planning.

The procedures that will be used in this study include:

1. Two interviews and a group meeting.
   a. The first interview will last about one hour. In that interview, you will be asked to identify and describe what you believe to be the critical

turning points in Jefferson Rubber Works' (JRW) history.

b. The second meeting will be a group session. You and the other participants will be asked to arrive at a consensus on the critical turning points in JRW's history. The researcher will provide the group with themes he identified in the individual interviews. He will also act as a facilitator at that meeting. The meeting should last approximately one and a half hours.

c. The second interview will last approximately two hours. In that interview, you will be asked to supply the researcher with information on: what the company was like when you joined it and how, as well as why, it has changed during your employment.

2. Additional meetings with the researcher as required. These private sessions may be needed to gather documents (budgets, memos, etc.) that are pertinent to the study. It is not anticipated that this will require much of your time.

All interviews and the meeting will be scheduled at your convenience as well as that of the company. The interviews will be private meetings between you and the researcher.

There are benefits and risks associated with this type of study. As for the benefits - first, you can expect to see the final product. The study will be given to the company and it will be available for review by all research participants. Second, the study may give participants a clearer idea about how and why the organization arrived at its present state and what that might imply for the company's future. Of course, with benefits come risks. All participants run the risk of being identified by their comments. Every effort will be made to avoid that type of situation from occurring in this study. First, the researcher will review with every participant any statement that he feels might identify them. In addition, the researcher will make every effort possible to disassociate the person's name, title or area of responsibility from their comments. If any statement is judged by the researcher or the participant to break his/her confidentiality, it will be eliminated from the study.

I have read this form and understand the purpose, as well as the procedure that will be used in this study. I agree to participate in the study.

_____ _____

Signature Date

Should you have any further questions about the study's purpose or how it will be conducted, please don't hesitate to call me at 413-527-6288. I would also be happy to meet with any participant who wants additional information.

APPENDIX D

CRITICAL INCIDENTS SUMMARY

CRITICAL INCIDENTS SUMMARY

INTERVIEWEES

EVENT/DATE	A	B	C	D	E	F	G	H	I	J	TIMES MENTIONED
BARRY WRIGHT CONSULTING ASSIGNMENT. 1972 - 1973							X		X		2
COMPANY STARTED - FIRST MACHINE BOUGHT; MATTATUCK SECURED. 1974	X	X	X	X		X			X	X	7
JOHN LARSEN LEAVES JRW. 1975										X	1
TWO MACHINES ADDED. 1977				X							1
BUGS WORKED OUT OF AMTROL ACCOUNT (ALMOST LOST). 1977 - 1978	X										
DOG BONE ACCOUNT. 1977 - 1978			X	X	X		X				4
LOW ON WORKING CAPITAL; ALMOST OUT OF MONEY. 1979	X						X				2
BOUGHT OLD CINCINATTI 1980				X							1
JERRY LANGER LEAVES COMPANY. 1980			X		X		X				3

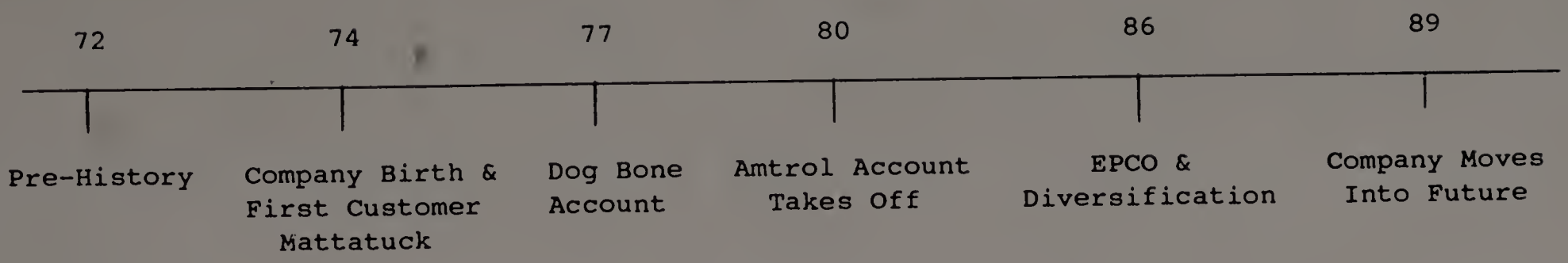
EVENT/DATE	A	B	C	D	E	F	G	H	I	J	TIMES MENTIONED
AMTROL PLACES LARGE ORDERS. 1980 - 1984	X			X		X	X		X	X	5
RAY-O-VAC ACCOUNT LOST. 1981					X						1
PURCHASE OF 4 STAGE RUTITAL FOR AMTROL BUSINESS 1982						X					1
SMALL DESMA BOUGHT FOR NPC. 1982		X		X							2
COMPANY IS PROFITABLE. 1982								X			1
DAVID EXPANDS ROLE IN BUSINESS. 1982 - 1983							X				1
NEW BANK IS BROUGHT IN. 1983	X		X				X				3
BUILDING A LARGE LIST OF CUSTOMERS. 1984 - 1987	X										1
BOUGHT TWO MORE MACHINES DUE TO THE INCREASES IN AMTROL AND MATTATUCK BUSINESS. 1985				X							1

EVENT/DATE	A	B	C	D	E	F	G	H	I	J	TIMES MENTIONED
Lost of NPC account. 1986		X							X		2
Jim Pike leaves company. 1986					X						1
Scola starts building condominiums forcing company to look for a new site. 1986	X										1
EPCO birth. 1986		X	X								2
Handy Harmon account opened. 1986		X									1
Bought used machines. 1986					X						1
Bought two more penajets to make vacuum belts and AVM - rotary. 1986				X	X						2
Amtrol business really increasing. 1987				X							1
Ed O'Neil hired. No aggressive sales and loss of Martin. 1987					X		X				2

APPENDIX E

THEMES

SALES THEME



72 - Dick Pentland consults with Barry Wright over their injection molding operation.

74 - Dick Pentland and Jerry Langer start JRW. Their first client is Mattatuck Rubber.

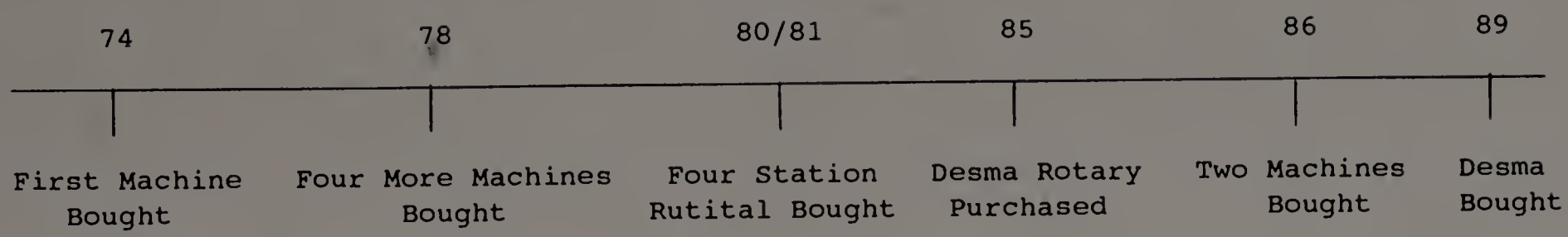
77 - Dog Bone account saves company from bankruptcy.

80 - Amtrol account and other accounts, i.e. NPC, Ray-O-Vac, etc., take hold and JRW starts to grow significantly.

86 - The company looses two of its major accounts and counteracts that crisis by diversifying the contract business and by starting a proprietary business (EPCO). The account lost is NPC and the account reduced is Amtrol.

89 - Company positions itself for the next 10 years.

MACHINE THEME



74 - JRW buys its first machine. The Mattatuck job runs on that machine.

78 - Four machines bought to handle increase in Mattatuck business.

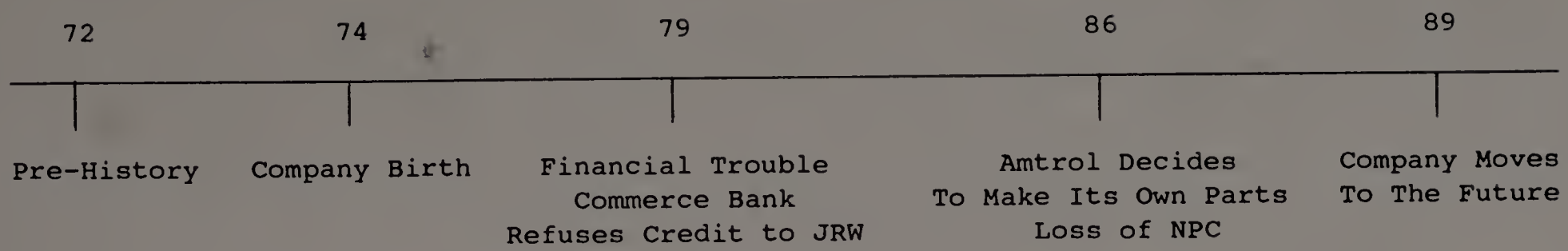
80/81 - Four station Rutital bought to handle Amtrol business.

85 - Desma rotary purchased for Amtrol job.

86 - Two machines bought to make belts.

89 - Bought another Desma for EPCO work.

CRISIS THEME



72 - Dick Pentland and Jerry Langer decide to start a business. Both men are unemployed at the time.

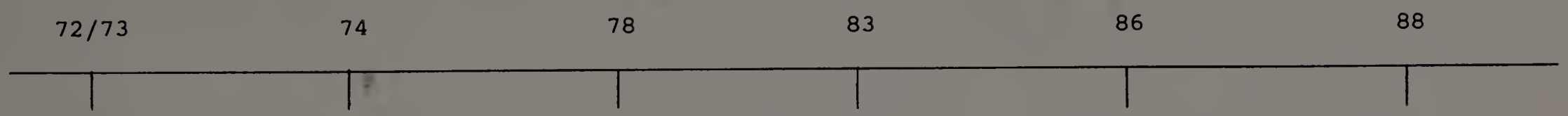
74 - JRW is started by Dick Pentland and Jerry Langer. First business plan gets into trouble (roller pins) and company faces bankruptcy.

79 - Company is low on operating capital. Dick and Jean borrow money and the company is kept afloat.

86 - Amtrol notifies JRW that it will begin making its own products. Simultaneously, the NPC business is lost.

89 - Company begins to position itself for the future.

MISCELLANEOUS THEME



72/73 - Dick Pentland gets the idea to do injection rubber molding. No one else is doing that in the U.S. Tried it out with Barry Wright while on a consulting assignment.

74 - Rollers for eight track stereo idea fails. Search for other customers begins. Mattatuck account is signed.

78 - Jerry Langer, one of original partners, leaves the company.

83 - A new banking arrangement is made with WCIS Bank. Bob Martin leaves JRW as a rep.

86 - Company begins to diversify in the face of sagging sales and declining sales.

88 - The move and reduction of customer sales cause JRW to become more cost concious in its operation. Bob Pike is hired to increase sales and further organize the sales function.

OPEN THEME

APPENDIX F

DOCUMENTS

Form 355 BS

MASSACHUSETTS DEPARTMENT OF REVENUE
CORPORATIONS BUREAU
215 First Street, Third Floor, Cambridge
P. O. Box 7005, Boston, MA 02204

Date March 9, 1983

Lastomerex, Inc.
North Main St.
Jefferson, Massachusetts.

CERTIFICATE OF GOOD STANDING
(only checked statements are applicable)

It is hereby certified by the Commissioner of Revenue of the Commonwealth of Massachusetts, as of the above date, that the above-named corporation -

☒ was organized in Massachusetts on May 12, 1975

☐ was organized in _____ on _____ and registered to do business in Massachusetts on _____;

☒ and has filed all tax returns required under Massachusetts General Laws, Chapter 63 or 63C, and has paid all taxes shown thereon to be due or assessed to date.

☐ and has filed no tax returns under Massachusetts General Laws, Chapter 63 or 63C, and no taxes have been assessed. Because of its recent organization or the recent date that it has been commenced to do business in Massachusetts, no returns or taxes have become due to date.

COMMISSIONER OF REVENUE

No. 4467-BB

By Dennis J. Corley
Asst Chief of Bureau

THIS CERTIFICATE IS NOT A WAIVER ISSUED UNDER MASSACHUSETTS GENERAL LAWS, CHAPTER 62C, SECTION 52, OR A TAX CERTIFICATE ISSUED UNDER MASSACHUSETTS GENERAL LAWS, CHAPTER 156B, SECTION 99 OR 100, AND CANNOT BE USED FOR SUCH PURPOSE.

Hasbro INDUSTRIES, INC.
1027 NEWPORT AVE., PAWTUCKET, R.I. 02861 Tel. 401-726-4100

September 20, 1977

Mr. Harry W. Jahnke
H & W Mold Inc.
415 North Elm St.
West Bridgewater, MA 02379

Dear Harry:

This letter will confirm our phone conversation of this date. You have a "GO" on two steel molds with which rubber will be molded. These molds will be to specifications of Mr. Richard Pentland of Lastomerex, Inc.

Mold #1 will consist of three plates and will have 6 cavities for a large Tug and Fetch toy, plus 7 cavities for a 7" tug toy. The cavities will be built to accept steel logo inserts, provided by Hasbro. Total cost of #1 mold not to exceed $7000.00; delivery to be 6 weeks from today - November 1, 1977.

Mold #2 will consist of two plates and contain 24 cavities for a toy bone. The cavities will be built to accept steel logo inserts, provided by Hasbro. Total cost of #2 mold to be between $4000.00 and $4500.00; delivery to be 8 weeks from today - November 15, 1977.

An order for the above molds will be issued to you in approximately ten days, with an advance of $5000.00. If for any reason this order is cancelled, Hasbro will pay for your involvement to date of cancellation.

If the above does not meet with your approval, kindly phone me at once.

Sincerely,

HASBRO INDUSTRIES, INC.

Sam Speers

Sam Speers
Vice President
Premiums & Special Sales

SS/g

cc: Dick Pentland

WORCESTER COUNTY INSTITUTION FOR SAVINGS

FINANCING ARRANGEMENTS

LASTOMEREX, INC.

JULY 13, 1983

DOCUMENT	NUMBER
Loan Agreement	1
Promissory Note -- $325,000.00	2
Promissory Note -- $525,000.00	3
Security Agreement	4
UCC Financing Statements (Filed with Registry of Deeds, Town Clerk -- Holden, and Secretary of State)	5
Landlord's Waiver (Recorded -- Worcester Dist. Registry of Deeds)	6
Guaranty of Richard R. and Elinor Pentland	7
Mortgage securing guarantee	8
Title certificate -- Gould Title	9
Corporate Resolutions	10
Opinion of Counsel	11
Casualty Insurance Binder	12
Certificate of Good Standing	13
Certificate of Legal Existence	14
UCC and Tax Lien Search	15

LASTOMEREX, INC.

STATEMENT OF INCOME (LOSS) AND RETAINED EARNINGS (DEFICIT)

YEARS ENDED MARCH 31, 1980 AND 1979

	1980	1979
Net sales	$ 834,831	$ 378,755
Cost of sales	696,046	329,058
Gross profit	138,785	49,697
Selling, general and administrative expenses	82,397	67,255
Operating profit (loss)	56,388	(17,558)
Other income (expense)		
Interest expense	(28,970)	(30,504)
Excess costs on customers molds over related billings	(4,836)	(8,188)
Gain on sale of equipment	-	38
Interest income	1,674	1,042
Miscellaneous	5,527	-
Income (loss) before income taxes and extraordinary items	29,783	(55,170)
Income taxes		
State	4,515	228
Federal	6,323	-
	10,838	228
Income (loss) before extraordinary items	18,945	(55,398)
Extraordinary items		
Tax benefit of net operating loss carryforward	10,610	-
Extraordinary gain	9,156	-
Net income (loss)	38,711	(55,398)
Retained earnings (deficit), beginning of year	(190,807)	(135,409)
Retained earnings (deficit), end of year	$(152,096)	$(190,807)

The accompanying notes are an integral part of these financial statements.

LASTOMEREX, INC.

NOTES TO FINANCIAL STATEMENTS
(Continued)

MARCH 31, 1980 AND 1979

INCOME TAXES

The Company utilized $39,650 of its net operating loss carryforward to eliminate the federal and State income tax liabilities for 1980.

At March 31, 1980, the Company has available certain tax carryforward items, which may be used to offset income taxes in future years as follows:

Fiscal Year Ending	Net Operating Loss Carryforward	Investment Tax Credits	
		Federal	State
1981	$ -	$ -	$3,142
1983	8,246	6,515	-
1984	68,195	1,137	-
1985	17,518	11,609	-
1986	54,413	874	-
1987	-	1,458	
	$148,372	$21,593	$3,142

RELATED PARTY TRANSACTIONS

The Company incurred sales commissions of $17,252 and $9,293 in 1980 and 1979, respectively, with Robert A. Martin Associates, which is owned by a member of the Board of Directors.

MAJOR CUSTOMERS

Sales to one major customer accounts for approximately 75% of the Company's volume.

LEASE

The Company leases all of its manufacturing and office facilities. Rent expense was $7,486 in 1980 and $4,195 in 1979.

The lease expired in September 1979 and no new formal lease has been signed.

AMTROL - JRW MEETING ON BUSINESS PLAN FOR NEXT 3-5 YEARS AUGUST 20, 1985

TO: D. Pentland
J. Pike
R. Pentland
E. O'Neil

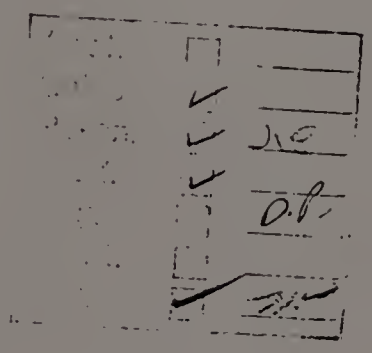
PRESENT AT MEETING:

L. Perrotti	-	Amtrol
R. Dufrene	-	Amtrol
J. McCann	-	Amtrol
R. Pentland	-	JRW
E. O'Neil	-	JRW

This meeting lasted approximately 1½ hours and was very productive in terms of forming a plan for JRW for the next 3-5 years. The following points were brought up by JRW and agreed to, in principle, by Amtrol:

1. 65% share of all Amtrol molded products for JRW.
2. 4-5 year commitment to buy from JRW.
3. A plan to look into margins with purchasing personnel at Amtrol.
4. Amtrol agrees to buy JRW equipment, if the need arises.
5. Amtrol agreeing to pay for independent certs.
6. Amtrol will take steps to insure security of JRW-Amtrol developments.

All in all, the meeting went very well and should enable JRW to look ahead without the worry of suddenly losing a major share of Amtrol volume.



May 6, 1986

Mr. Don Carr
Amtrol, Inc.
1400 Division Rd., Box 329
W. Warwick, R.I. 02893

Dear Don:

I would like to summarize our meeting of May 2nd and thank you for the schedule. As we discussed, the ability of Amtrol to provide adequate lead times is essential to production planning at Jefferson Rubber Works. I understand that Amtrol is going to adjust inventory in the month of May and, therefore, cut back considerably on May's diaphragm requirements. The schedule you gave me should help us determine when and what to run. I also hope, along with you, that the month of June returns us to normal production quantities.

I was very pleased to hear that Amtrol was not building any additional tools in order to mold diaphragms, other than the 26" in Nashville. I trust we have been of some service in helping Nashville get their molding operation up and running. It is our hope that the 26" tank will pull the other sizes along and increase your sales on all sizes.

One last item, Don, that I would like to cover, is palletainers. We will be sending down the half size palletainers that we discussed, in the near future, for your production people to test for suitability on the production line.

Sincerely,

JEFFERSON RUBBER WORKS

Edward A. O'Neil
General Sales Manager
EAO;kad
cc: Mr. John Murphy
Mr. Lou Perrotti

CALL REPORT

Date: March 6, 1986

AMTROL - Nashville, Tn.

Bill McClure- Molding Manager
Ed Allen - Plant Manager

I met with Bill & Ed for approximately 2½ hours. Bill showed me their new injection molding machines (2-WP's). They were running 1 machine and making parts on what seemed to be a 7-10 minute cycle. They had a stack of about 15 pcs. on the floor. Bill explained to me that they were waiting for the 26" line to start up so that they could assemble some of the product they were manufacturing (on a limited basis). As stated, I saw one machine running.(They might have started it up just to show me?) The other machine had the bottom platen taken out and their second mold was sitting on the floor strapped up on a skid. They appeared to have their molding department under control.(no pressure on it yet) I noticed they had about 25-30 gaylords full of Polysar cmp. #5016, in stock. Bill mentioned that they had some contamination problems with the 5016, but had gotten it squared away. He also stated that he was surprised he hadn't heard anything from Colonial in a long time, like they weren't interested in Amtrol's business. Amtrol is still waiting for their extruder, but they have already received their rheometer machine, so they can check the compound that they are getting vs. what Polysar says they are receiving.(good idea) Bill mentioned that this compound needed to be "juiced up" so they could reduce the cure time.

Some observations and answered questions:

a. 22" tank inventory way down
b. JRW 22" inventory -6500 pcs. No other 22" diaphragms observed(competitors)
c. 26" line should be up in 1-1½ mos.
d. Amtrol will need more 22's in 2-3 weeks
e. 26" Line will replace 40% of 22" business (projection)
f. Ed mentioned that the acushnet 15" bloom problem was a "pain in the ass." I mentioned that we have no bloom problem and he should use some JRW diaphragms.
g. Ed was very pleased to hear that from now on we would be supplying all the Nashville diaphragms in gaylords.
h. Ed said he heard we were approached by State. He said they were a "tough customer" and that they are big in water heaters and got into the tank business on the side. He stated that they were his biggest competition.
i. Amtrol has 2 lines in Nashville. One line strictly for 15" and the other line for 22" and 26". diaphragms.
j. Small bead 22" diaphragms-obsolete.

Dave Pentland

cc: Ed
Jim

#319

April 27, 1987

Mr. Don Carr
Amtrol, Inc.
1400 Division Rd., Box 329
W. Warwick, R.I. 02893

Dear Don:

As we discussed, last week in our meeting, I have put in writing our proposed price adjustments, along with the reasons for the change.

As you know, the decrease in Amtrol business has forced us to under utilize our rotary equipment. At the same time, we are unable to purchase raw materials in quantities previously used, resulting in higher prices. At Amtrol's request, we have invested in Q.C. equipment and personnel that has also increased our costs.

Don, at the present rate of business, we can not maintain the inventory levels needed to supply Amtrol, without a price adjustment. At the current rate, we are not profitable.

Part #	Terms	Price
15" #112-002	60,000 pcs., 3 month release schedule	$5.80/each
15" #112-002	100,000 pcs., 4 month schedule	$5.70/each
15" #112-002	Present arrangement, less than 60,000 pcs. scheduled	$6.00/each
11", #141-001	15,000 pcs.	$2.40/each
11" #141-001	Present arrangement, less than 15,000	$2.50/each
8" #140-119	Present schedule	$1.25/each
11" #141-006	Present schedule	$3.00/each

All pricing will be effective as of May 11, 1987. Any inventory shipped before this date will be priced at the current price.

Sincerely,
JEFFERSON RUBBER WORKS

Edward A. O'Neil
General Sales Manager
EAO;kad

PURCHASE ORDER

No.

THIS NUMBER MUST APPEAR ON INVOICES, B/L, BUNDLES, CASES, PACKING LISTS AND CORRESPONDENCE

NPC SYSTEMS INC.
Elm St, P.O. Box 301
Milford, N.H. 03055 USA
(603)673-8680

JEFFERSON RUBBER WORKS
1665 NORTH MAIN STREET
JEFFERSON, MA 01522

ATTN: JIM PIKE

DATE MAY 14, 1985
DATE WANTED SHIP ON 5/24/85
TERMS STD.
FOB YOUR PLANT
SHIP VIA BEST WAY REQ BY BF

DELIVER TO: BOOT DEPARTMENT
ACCT. NO. 1318

QUANITY	DESCRIPTION	NPC PART NO.	PRICE	AMOUNT
1200	KOR-N-SEAL 400 BOOTS	406-12A	$5.365/ea	$6438.00

NOTE: NPC PART NUMBER MUST APPEAR ON ALL PACKING LISTS AND INVOICES

Bob Farrow
AUTHORIZED SIGNATURE

PURCHASE ORDER

No.

THIS NUMBER MUST APPEAR ON IN-VOICES, B/L, BUNDLES, CASES, PACK-ING LISTS AND CORRESPONDENCE

NPC SYSTEMS INC.
Elm St, P.O. Box 301
Milford, N.H. 03055 USA
(603)673-8680

JEFFERSON RUBBER WORKS
1665 NORTH MAIN STREET
JEFFERSON, MA 01522

ATTN: JIM PIKE

DATE 8/27/85
DATE WANTED ASAP
TERMS
FOB YOUR PLANT
SHIP VIA BEST WAY RBQ BY BF

DELIVER TO: BOOT DEPARTMENT
ACCT. NO. 1318

QUANITY	DESCRIPTION	NPC PART NO.	PRICE	AMOUNT
2,000	KOR-N-SEAL 400 BOOTS	406-12A	$5.365	
1,000	KOR-N-SEAL 400 BOOTS	406-12	$5.445	
	CONFIRMATION TO JIM PIKE			

NOTE: NPC PART NUMBER MUST APPEAR ON ALL PACKING LISTS AND INVOICES

Bob Farrow/dlw
AUTHORIZED SIGNATURE

PURCHASE ORDER

No.

THIS NUMBER MUST APPEAR ON IN-VOICES, B/L, BUNDLES, CASES, PACK-ING LISTS AND CORRESPONDENCE

NPC SYSTEMS INC.
Elm St, P.O. Box 301
Milford, N.H. 03055 USA
(603)673-8680

JEFFERSON RUBBER WORKS
1665 NORTH MAIN STREET
JEFFERSON, MA 01522

ATTN: JIM PIKE

DATE 9/13/85
DATE WANTED SEE BELOW
TERMS
FOB YOUR PLANT
SHIP VIA BEST WAY
REQ BY BF

DELIVER TO:
ACCT. NO. 1318

QUANITY	DESCRIPTION	NPC PART NO.	PRICE	AMOUNT
12M	406-12A Boots	406-12A	$5.365	
6M	406-12 Boots	406-12	$5.445	
	TO BE RELEASED AS FOLLOWS: 1M 406-12A per month 500 406-12 per month			
	THIS ORDER TO COMMENCE UPON COMPLETION OF EXISTING ORDER.			
	CONFIRMING TO JIM PIKE			

NOTE: NPC PART NUMBER MUST APPEAR ON ALL PACKING LISTS AND INVOICES

Bob Farrow/Dew
AUTHORIZED SIGNATURE

PURCHASE ORDER
No.
THIS NUMBER MUST APPEAR ON INVOICES, B/L, BUNDLES, CASES, PACKING LISTS AND CORRESPONDENCE

NPC SYSTEMS INC.
Elm St, P.O. Box 301
Milford, N.H. 03055 USA
(603)673-8680

JEFFERSON RUBBER WORKS
1665 NORTH MAIN STREET
JEFFERSON, MA 01522

DATE 10/16/85
DATE WANTED ASAP
TERMS
FOB YOUR PLANT
SHIP VIA BEST WAY
REQ BY PHIL
DELIVER TO:
ACCT. NO. 1318

QUANITY	DESCRIPTION	NPC PART NO.	PRICE	AMOUNT
500	KOR-N-SEAL 400 BOOT	406-12B	$5.30	
	CONFIRMATION TO JIM PIKE DO NOT DUPLICATE			

NOTE: NPC PART NUMBER MUST APPEAR ON ALL PACKING LISTS AND INVOICES

Dana Washburn
AUTHORIZED SIGNATURE

ORDER NO 1341

DATE

SOLD TO NPC Systems 11301086

ADDRESS

SHIP TO

ADDRESS

salesman	ship via	when	terms	fob
JLP	NASHUA			

1,000 PCS 12B

PURCHASED BY

GRAYLINE FORMS 59458 DUPLICATE - 59556 TRIPLICATE USA

ORDER NO 1253

DATE 1/27/1986

SOLD TO APC Systems

ADDRESS

SHIP TO

ADDRESS

salesman	ship via	when	terms	fob
JLP	Nashua			

500pcs	12B	

PURCHASED BY

GRAYLINE FORMS 59458 DUPLICATE - 59556 TRIPLICATE USA

ORDER NO 1291

SOLD TO NPC

DATE 1/29/86

ADDRESS

SHIP TO

ADDRESS

salesman	ship via	when	terms	f o b
E O'Neil				

1000	406	12B's

PURCHASED BY Linda

GRAYLINE FORMS 59458 DUPLICATE - 59556 TRIPLICATE USA

PURCHASE ORDER

No.

THIS NUMBER MUST APPEAR ON INVOICES, B/L, BUNDLES, CASES, PACKING LISTS AND CORRESPONDENCE

NPC SYSTEMS INC.
Elm St, P.O. Box 301
Milford, N.H. 03055 USA
(603)673-8680

JEFFERSON RUBBER
1665 NO. MAIN ST.
JEFFERSON, MA 01522

DATE FEBRUARY 3, 1986
DATE WANTED FEBRUARY 14, 1986
TERMS
FOB
SHIP VIA NASHUA MOTOR PC REQ BY 1318

DELIVER TO: NPC SYSTEMS, ELM ST., MILFORD, NH 03055
ACCT. NO.

QUANITY	DESCRIPTION	NPC PART NO.	PRICE	AMOUNT
5,000	406-12A Boots		$5.365 ea.	
	Durometer reading to be 45 ± 2-1/2 or boots will be rejected.			
	Confirming to Jim Pike.			

NOTE: NPC PART NUMBER MUST APPEAR ON ALL PACKING LISTS AND INVOICES

Linda E Larson
AUTHORIZED SIGNATURE

APPENDIX G

START LIST CODES AND DEFINITIONS

START LIST OF FIRST LEVEL CODES

CULTURAL SUBSYSTEM	CODE	CONCEPT
CS: MISSION/STRATEGY	CS-MS/STR	TICHY MODEL
CS: TASKS	CS-TSKS	TICHY MODEL
CS: PRESCRIBED NETWORK	CS-PN	TICHY MODEL
CS: PEOPLE	CS-PE	TICHY MODEL
CS: PROCESSES	CS-PR	TICHY MODEL
CS: EMERGENT NETWORK	CS-EN	TICHY MODEL

POLITICAL SUBSYSTEM	CODE	CONCEPT
PS: MISSION/STRATEGY	PS-MS/STR	TICHY MODEL
PS: TASKS	PS-TSKS	TICHY MODEL
PS: PRESCRIBED NETWORK	PS-PN	TICHY MODEL
PS: PEOPLE	PS-PE	TICHY MODEL
PS: PROCESSES	PS-PR	TICHY MODEL
PS: EMERGENT NETWORK	PS-EN	TICHY MODEL

TECHNICAL SUBSYSTEM	CODE	CONCEPT
TS: MISSION/STRATEGY	TS-MS/STR	TICHY MODEL
TS: TASKS	TS-TSKS	TICHY MODEL
TS: PRESCRIBED NETWORK	TS-PN	TICHY MODEL
TS: PEOPLE	TS-PE	TICHY MODEL
TS: PROCESSES	TS-PR	TICHY MODEL
TS: EMERGENT NETWORK	TS-EN	

INPUT	CODE	CONCEPT
INP: HISTORY	INP-H	TICHY MODEL
INP: ENVIRONMENT	INP-ENV	TICHY MODEL
INP: RESOURCES	INP-RES	TICHY MODEL

OUTPUT	CODE	CONCEPT
OUT: OUTPUT	OT	TICHY MODEL

TRIGGER FACTORS	CODE	CONCEPT
TF: ENVIRONMENTAL CHANGE	TF-ENV	TICHY MODEL
TF: POLITICAL/AGREEMENT OVER GOALS	TF-POL/GOA	TICHY MODEL
TF: POLITICAL/AGREEMENT OVER MEANS	TF-POL/MEN	TICHY MODEL
TF: POLITICAL/ENVIRONMENTAL UNCERTAINTY	TF-POL/ENV	TICHY MODEL
TF: TECHNICAL/ENVIRONMENTAL UNCERTAINTY	TF-TECH/ENV	TICHY MODEL

TF: TECHNICAL/TECHNOLOGY	TF-TECH/TECHN	TICHY MODEL
TF: TECHNICAL/TASK	TF-TECH/TSKS	TICHY MODEL
TF: TECHNICAL/TASK INTERDEPENDENCE	TF-TECH/INTER	TICHY MODEL
TF: CULTURAL/ENVIRONMENT UNCERTAINTY	TF-CUL/ENV	TICHY MODEL
TF: CULTURAL/HOMOGENEITY OF CULTURE	TF-CUL/HOMO	TICHY MODEL

LIFE CYCLE STAGES	CODE	CONCEPT
LCS: CREATION AND ENTREPRENEURIAL STAGE	LCS-C&E	CAMERON AND WHETTEN MODEL
LCS: COLLECTIVITY STAGE	LCS-COLL	CAMERON AND WHETTEN MODEL
LCS: FORMALIZATION AND CONTROL STAGE	LCS-F&C	CAMERON AND WHETTEN MODEL
LCS: ELABORATION OF STRUCTURE STAGE	LCS-ELAB	CAMERON AND WHETTEN MODEL

DEFINITIONS FOR FIRST LEVEL CODES

CULTURAL SUBSYSTEM

Mission/Strategy CS-MS/STR	Managing influence of values and philosophy on mission and strategy. Developing culture aligned with mission and strategy.
Tasks CS-TSKS	Use of symbolic events to reinforce culture. Role modeling by key people. Clarifying and defining values.
Prescribed Network CS-PN	Developing managerial styles that are aligned with the technical and political structure. Development of subcultures to support role (production culture, etc.). Integration of subcultures to create company culture.
People CS-PE	Matching values of people with organization culture, "Utilizing Cultural Leadership Skills".
Processes CS-PR	Selection of people to build or reinforce culture. Development (socialization) to mold organization culture. Management of rewards to shape and reinforce the culture. Management of information and planning systems to shape and reinforce the culture.
Emergent Network CS-EN	Fostering friendship and affective network coalitions to shape and reinforce the culture.

POLITICAL SUBSYSTEM

Mission/Strategy PS-MS/STR	Who gets to influence the mission and strategy? Managing coalition behavior around strategic decisions.

Tasks PS-TSKS	Lobbying and influencing external constituencies. Internal governance and structure formulation. Coalition activities to influence decisions.
Prescribed Network PS-PN	Distribution of power across the role structure. Balancing power across groups of roles (e.g.: sales vs marketing, production vs R.D., etc.).
People PS-PE	Utilizing political skills. Matching political needs and operating with organizational opportunities.
Processes PS-PR	Managing succession politics (who gets ahead, how they get ahead). Decision and administration of reward system. (Who gets what and how.) Managing the politics of appraisal (who is appraised by whom and how). Managing the politics of information control and the planning process.
Emergent Network PS-EN	Management of emergent influence networks, coalitions and cliques.
<u>TECHNICAL SUBSYSTEM</u>	
Mission/Strategy TS-MS/STR	Assessing environmental threats and opportunities. Assessing organizational strengths and weaknesses. Defining mission and fitting resources to accomplish it.
Tasks TS-TSKS	Environmental scanning activities (internal/external). Strategic planning activities.
Prescribed Network TS-PN	Differentiation: Organization of work into roles (production, marketing, etc.). Integration: recombining rules into departments, divisions, regions, etc. Aligning structure to strategy.

People TS-PE	Selecting or developing technical skills and abilities. Matching management style with technical tasks.
Processes TS-PR	Fitting people to roles. Specifying performance criteria for roles. Measuring performance. Staffing and development to fill roles (present and future). Developing information and planning systems to support strategy and tasks.
Emergent Network TS-EN	Fostering the development of information networks which facilitate task accomplishment.

INPUT

History INP-H	Repeated patterns of historical events in the following areas, i.e.: economic, cultural and political. These events have acted upon the organization, depending on which cycle was dominant. They may be planned or unplanned.
Environment INP-ENV	The relationship of several environmental dimensions to uncertainty. 1. Concentration: The extent to which power and the authority to control desired organizational outcomes in the environment is dispersed, i.e.: a low concentration, non-oligopolistic situation increases uncertainty for the organization. 2. Munificence: The availability of critical resources for the organization.

3. Interconnectedness: The extent to which organizations in the environment are linked to each other, i.e.: the larger the number of interconnections, the greater the uncertainty.

4. Interdependence: The extent to which the organization depends on other organizations and therefore, must coordinate its actions with others.

5. Conflicts: The amount of dissension over goals existing between the organization and those with whom is in direct contact.

6. Uncertainty of the Environment: As experienced by the organization, this is directly influenced by the kind of conflict and the level of interdependence.

Resources
INP-RES

Deals with how much of the following an organization has:

1. The capital and organization controls in terms of space, equipment inventory, accounts receivable and cash.

2. The technological capability to carry out tasks, i.e.: how state of the art is the company.

3. The company's reputation and good will.

4. The people resources in terms of numbers, demographic characteristics and skills.

Output
OUT-OT

The effectiveness is related to three components.

1. Goal Optimization

    a. Is the organization applying its resources toward the attainment of its goals?
    b. Is there a clear relationship between the amount of financial resources the organization spends on a particular goal and its importance.
    c. What kind of return on investment, per goal, is the organization getting on its resources.
    d. Are all parts of the organization working towards at least one of the organization's behavioral intentions.
    e. Is the organization's environment changing, and if so, are the goals being readjusted.

2. Systems Perspective: A well-designed organization should exhibit alignment between its cultural, its political, and its technical subsystems.

3. Behavioral Emphasis: The interface between the organization and its members, that is, the impact of the organization on its members in terms of satisfaction, quality of life, and opportunity to grow. These all contribute to behavior and, therefore, to overall organizational effectiveness.

TRIGGER FACTORS

Political/Agreement Over Goals TF-POL/GO	Such as when splits erupt among members of dominant coalition(s) regarding the future mission of the organization.
Political/Agreement Over Means TF-POL/MEN	Shifts here are caused when different factions support different forms of production or organization structure.
Political/Environmental TF-POL/ENV	Political changes in the environment cause uncertainty, i.e.: equal employment legislation changed the power coalitions in some organizations.
Technical/Environmental Change	Technological changes cause uncertainty.
Technical/Tasks TF-TECH/TSKS	Simple routine tasks as found in basic manufacturing and produce low levels of uncertainty, whereas non-routine complex tasks such as those found in high technology research industries create high levels of uncertainty.
Technical/Task Interdependence	Work tasks which must be closely linked are highly interdependent and create greater uncertainty.
Cultural/Environmental Change	Value shifts in the environment cause uncertainty.
Cultural/Homogeneity of Culture	New members bring diversity into a culture causing uncertainty.

LIFE CYCLE STAGES

Creation and Entre- LCS-C&E	In this stage, creativity and innovation are the main focus.
Collectivity Stage LCS-COLL	This stage is typically concerned with informal communication and structure.
Formalization and Control Stage LCS-F&C	At this point, the organization becomes concerned about rules and procedures.

Elaboration of Structure LCS-ELAB	The organization begins to get concerned about renewing itself and expanding its domain.

TICHY'S PROPOSITIONS

Proposition One TP-One	The resolution of early, birth-stage problems in an organization is largely determined by which subsystem is dominant, i.e.: technical, political, cultural.
Proposition Two TP-Two	Uncertainty creating events have differential impact on the three organizational subsystems.
Proposition Three TP-Three	Organizational subsystems are dialectical and trigger one another.

CAMERON & WHETTEN PROPOSITIONS

Proposition One CWP-One	That the Cameron and Whetten model is applicable in understanding the life cycle of a family run entrepreneurial organization.
Proposition Two CWP-Two	That organizations evolve through four progressive stages of development.
Proposition Three CWP-Three	That problems in lower developmental stages have to be resolved before an organization can evolve to a higher stage of evolution.
Proposition Four CWP-Four	That problems in the first three stages appear in the fourth stage and need to be resolved.
Proposition Five CWP-Five	That there is a predictable time period for each stage of evolution.
Proposition Six CWP-Six	That birth to maturity are predictable, but subsequent phases are not predictable.

START LIST OF SECOND LEVEL CODES

THEMES	CODE
TH: THEME	TH

CAUSES AND EXPLANATIONS	CODE
C/EX: CAUSES AND EXPLANATIONS	C/EX

RELATIONSHIPS	CODE
R: RELATIONSHIPS	R

THEORETICAL CONSTRUCTS	CODE
TCO: THEORETICAL CONSTRUCTS	TCO

DEFINITIONS FOR SECOND LEVEL CODES

THEMES

TH: THEMES	TRENDS THAT WEAVE THROUGHOUT THE STUDY.

CAUSES AND EXPLANATIONS

C/EX: CAUSES AND EXPLANATIONS	CAUSES AND EXPLANATIONS THAT GIVE MEANING TO EVENTS OR SITUATIONS BY ILLUMINATING WHAT'S BEHIND THE EVENTS.

RELATIONSHIPS

R: RELATIONSHIPS	THE CONNECTIONS THAT BOND PEOPLE.

THEORETICAL CONSTRUCTS

TCO: THEORETICAL CONSTRUCTS	MODELS WHICH EXPLAIN REALITY.

APPENDIX H

TICHY CODE AND DEFINITION REVISIONS

CODE DEFINITIONS REVISION 9/18

TECHNICAL SUBSYSTEM

MISSION/STRATEGY TS-MS/STR	THE MISSION IS THE ORGANIZATION'S REASON FOR BEING AND THE STRATEGY IS ITS BASIC APPROACH TO CARRYING OUT THE MISSION. ASSESSING ENVIRONMENTAL THREATS AND OPPORTUNITIES. ASSESSING ORGANIZATIONAL STRENGTHS AND WEAKNESSES.
TASKS TS-TSK	THE TASK REPRESENTS WHAT NEEDS DOING. WHILE THE TECHNOLOGY REPRESENTS HOW THE TASK IS CARRIED OUT.
PRESCRIBED NETWORKS TS-PN	DEPARTMENTS OR ROLES WITHIN THE COMPANY.
PEOPLE TS-PE	ADDING OR DROPPING PEOPLE.
PROCESSES TS-PR	COMMUNICATION, PROBLEM SOLVING, DECISION MAKING REWARD SYSTEMS AND CONFLICT MANAGEMENT.
EMERGENT NETWORK TS-EN	FOSTERING THE DEVELOPMENT OF INFORMAL NETWORKS WHICH FACILITATE ACCOMPLISHMENT.

* THE ONLY OTHER CHANGE FROM THE ORIGINAL CODES WAS TO ADD ONE IN THE TRIGGER SECTION (SEE BELOW) AND REMOVE THE PROPOSITION CODES.

TRIGGER FACTORS

ENVIRONMENT CHANGE TF-ENV	INCREASED COMPLEXITY, UNPREDICTABILITY AND COMPETITION IN THE ENVIRONMENT.

CODE DEFINITIONS REVISION 9/23

CULTURAL SUBSYSTEM (VALUES OR BELIEFS)

MISSION/STRATEGY CS-MS/STR	THE VALUES OR BELIEFS BEHIND A STRATEGY.
TASKS CS-TSK	EVENTS THAT REINFORCE THE CULTURE
PRESCRIBED NETWORK CS-PN	VALUES BEHIND A STRUCTURE CHANGE.
PEOPLE CS-PE	VALUES OF PEOPLE.
PROCESSES CS-PR	BRINGING PEOPLE INTO THE ORGANIZATION. FIRING OF PEOPLE.
EMERGENT NETWORK CS-EN	FOSTERING FRIENDSHIP IN THE ORGANIZATION. COALITIONS FORM ALONG FRIENDSHIP LINES.

POLITICAL SUBSYSTEM (POWER USE)

MISSION/STRATEGY PS-MS/STR	WHO SETS THE GOALS OR STRATEGY.
TASKS PS-TSKS	WHO CONTROLS HOW THINGS ARE DONE.
PRESCRIBED NETWORK PS-PN	BALANCING POWER ACROSS ROLES AND DEPARTMENTS.
PEOPLE PS-PE	UTILIZING POLITICAL SKILLS WITH PEOPLE.
PROCESSES PS-PR	WHO GETS WHAT AND HOW. MANAGEMENT SUCCESSION.
EMERGENT NETWORK PS-EN	MANAGEMENT OF EMERGENT INFLUENCED NETWORKS, COALITIONS AND CLIQUES.

APPENDIX I

CAMERON AND WHETTEN

CODE AND DEFINITION REVISIONS

CAMERON AND WHETTEN

REVISED CODES 9/27

STAGE ONE		CODE	CONCEPT
SI:	CREATIVITY AND INNOVATION	C/I	LIFE CYCLE
SI:	MARSHALLING RESOURCES	MR	LIFE CYCLE
SI:	PLANNING/COORDINATION	P/C	LIFE CYCLE
SI:	NICHE	N	LIFE CYCLE
SI:	PRIME MOVER	PM	LIFE CYCLE
SI:	SURVIVAL THRESHOLD	ST	LIFE CYCLE
SI:	EXTERNAL SUPPORT	ES	LIFE CYCLE
SI:	RESOURCE ACQUISITION	RA	LIFE CYCLE
SI:	LOTS OF IDEAS	LI	LIFE CYCLE
STAGE TWO		CODE	CONCEPT
SII:	INFORMAL COMMUNICATION AND STRUCTURE	I/S	LIFE CYCLE
SII:	COLLECTIVITY	C	LIFE CYCLE
SII:	LONG HOURS	LH	LIFE CYCLE
SII:	SENSE OF MISSION	SM	LIFE CYCLE
SII:	INNOVATION CONTINUES	IC	LIFE CYCLE
SII:	HIGH COMMITMENT	HC	LIFE CYCLE
SII:	HUMAN RESOURCE DEV.	HRD	LIFE CYCLE
SII:	SENSE OF FAMILY	SF	LIFE CYCLE
STAGE THREE		CODE	CONCEPT
SIII:	RULES AND PROCEDURES	R/D	LIFE CYCLE
SIII:	STABLE STRUCTURE	SS	LIFE CYCLE
SIII:	EFFICIENCY AND MAINTENANCE	E/M	LIFE CYCLE
SIII:	CONSERVATION	C	LIFE CYCLE
SIII:	INSTITUTIONALIZED PROCEDURES	IP	LIFE CYCLE
SIII:	EFFICIENCY OF PRODUCTION	EP	LIFE CYCLE
SIII:	GOAL SETTING AND ATTAINMENT	GS/A	LIFE CYCLE
STAGE FOUR		CODE	CONCEPT
SIV:	RENEWAL AND EXPANSION	R/E	LIFE CYCLE
SIV:	ELABORATION OF STRUCTURE	ES	LIFE CYCLE
SIV:	RESOURCE ACQUISITION AND GROWTH CYCLE		RG LIFE
SIV:	MONITOR EXTERNAL ENVIRONMENT	MEE	LIFE CYCLE

DEFINITIONS FOR REVISED CODES

STAGE ONE

CREATIVITY AND INNOVATION C/I	CREATIVITY AND INNOVATION ARE THE MAIN FOCUS OF THIS STAGE.
MARSHALLING RESOURCES MR	RESOURCES MARSHALLED TO KEEP THE ORGANIZATION GOING.
PLANNING/COORDINATION P/C	PLANNING AND COORDINATION.
NICHE N	FORMATION OF A NICHE.
PRIME MOVER PM	PRIME MOVER HAS ALL THE POWER.
SURVIVAL THRESHOLD ST	COMPANY STRIVES TO SURVIVE.
EXTERNAL SUPPORT ES	DEVELOPMENT OF EXTERNAL SUPPORT.
RESOURCE ACQUISITION RA	ACQUIRING RESOURCES TO STAY IN BUSINESS.
LOTS OF IDEAS LI	A TIME WHEN THERE ARE LOTS OF IDEAS.

STAGE TWO

INFORMAL COMMUNICATION AND STRUCTURE I/S	STAGE IS TYPICALLY CONCERNED WITH INFORMAL COMMUNICATION.
COLLECTIVITY C	A SENSE OF COLLECTIVITY.
LONG HOURS LH	LONG WORK HOURS.
SENSE OF MISSION SM	THE COMPANY BEGINS TO HAVE A SENSE OF MISSION.

INNOVATION CONTINUES IC	INNOVATION CONTINUES IN THE COMPANY.
HIGH COMMITMENT HC	THE EMPLOYEES HAVE A HIGH COMMITMENT.
HUMAN RESOURCE DEV. HRD	THE EMPHASIS IS ON MORALE, COHESION AND SATISFACTION.
SENSE OF FAMILY SF	EMPLOYEES ARE TREATED LIKE FAMILY.
<u>STAGE THREE</u>	
RULES AND PROCEDURES R/P	THE ORGANIZATION BECOMES CONCERNED ABOUT RULES.
STABLE STRUCTURE SS	STRUCTURE IS FORMED AT THIS POINT AND IS STABLE.
EFFICIENCY AND MAINTENANCE E/M	EMPHASIS IS ON EFFICIENCY AND MAINTENANCE.
CONSERVATION C	THE COMPANY BECOMES CONSERVATIVE IN DECISIONS.
INSTITUTIONALIZED PROCEDURE IP	PROCEDURES BECOME PART OF HOW THE COMPANY OPERATES.
EFFICIENCY OF PRODUCTION EP	THERE IS AN EMPHASIS ON EFFICIENT PRODUCTION.
GOAL SETTING AND ATTAINMENT GS/A	THE COMPANY SETS AND ATTAINS ITS GOALS IN SOME CASES.
<u>STAGE FOUR</u>	
RENEWAL AND EXPANSION R/E	THE ORGANIZATION BEGINS TO GET CONCERNED ABOUT RENEWING ITSELF AND EXPANDING ITS DOMAIN.
ELABORATION OF STRUCTURE ES	THE STRUCTURE BEGINS TO EXPAND.
RESOURCE ACQUISITION AND GROWTH RG	THE ORGANIZATION LOOKS FOR RESOURCES TO GROW.
MONITOR EXTERNAL ENVIRONMENT MEE	THE ORGANIZATION MONITORS THE EXTERNAL ENVIRONMENT IN ORDER TO RENEW OR EXPAND.

APPENDIX J

REVISED INTERVIEW GUIDE

INPUTS

Environment:

* What was the environment like during that period?
* What critical changes occurred in that period?

Resources:

* What company resources did the company possess at that time?
* What critical resources changed and when?

MISSION/STRATEGY/OBJECTIVES

* Tell me about the company goals at that time?
* Who set the goals?
* Did the company incorporate values in their goal setting?
* Were there any critical changes in the goals and why?

TASKS

* Tell me about the primary tasks that the company performed in order to carry out its mission and strategy.
* Who controlled how those activities were carried out and how did they control those activities?
* What were the norms, at that time, i.e. values, beliefs?
* Were there any critical changes in the activities?

PEOPLE

* What was the leadership style like at that time?
* Who were the leaders?
* What were their values?
* Were there any critical changes in the leadership or people?

PRESCRIBED ORGANIZATIONAL STRUCTURE

* What was the formal structure like at that time?
* Who designed the structure?
* What were the beliefs behind that structure?
* Were there any critical changes in the structure?

ORGANIZATIONAL PROCESSES

* What were the organizational processes like at that time i.e. communication, decision making, conflict, etc.?
* Who controlled those processes?
* What were their values?
* Were there any critical changes in the processes?

EMERGENT NETWORK

* Were there any informal groups that effected the business?
* Who were they and how did they impact the business?
* What were their beliefs?
* Were there any critical changes in these groups?

OUTPUTS

* How effective was the company?
* How satisfied were you?
* Were there any critical changes in the sales, profit, etc.?

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